DOCUMENT RESUME

ED 380 922 EC 303 795

TITLE	Handbook on Specific Learning Disabilities.
INSTITUTION	Mid-South Regional Resource Center, Lexington, Ky.; North Carolina State Dept. of Public Instruction, Raleigh. Div. of Exceptional Children's Services.
PUB DATE	91
NOTE	128p.
PUB TYPE	Guides - Non-Classroom Use (055) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	Curriculum; *Delivery Systems; *Disability Identification; Educational Diagnosis; *Educational Methods; *Educational Practices; Elementary Secondary Education; Intervention; *Learning Disabilities
IDENTIFIERS	*North Carolina

ABSTRACT

This handbook was developed as a resource on learning disabilities (LD) for North Carolina educators. The first section covers guidelines for identifying, diagnosing, and developing services for LD students. The handbook then provides an overview of effective practices for teaching students with learning disabilities and some ideas for structuring programs at the elementary and secondary school levels. Several special topics are then addressed: practical tips for teachers, LD students in the regular classroom, computer applications, transition planning, and social skills. Appendices provide curricular area information and resources, a list of organizations and journals in the LD field, a software review form, addresses for publishers of software and textbooks, a list of general books on learning disabilities, and a case study on the identification and implementation of services for an LD student. (Most sections contain references.) (JDD)

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Handbook on Specific Learning Disabilities

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Published in cooperation with the

Handbook On Specific Learning Disabilities

1991

Division of Exceptional Children's Services
North Carolina Department of Public Instruction
Raleigh, North Carolina

in cooperation with
Mid-South Regional Resource Center
Lexington, Kentucky

Preface

This handbook was developed as a resource for local program administrators, principals, and teachers of students with learning disabilities. The first section covers guidelines for identifying, diagnosing, and developing services for learning disabled students. Section Two provides an overview of effective practices for teaching learning disabled students and some ideas for structuring programs at the elementary and secondary school levels. Section Three addresses several special topics: tips for teachers of learning disabled students, learning disabled students in the regular classroom, computer applications, transition planning, and social skills. The final section contains appendices on curricular area information and resources, sources for organizations and journals on learning disabilities, addresses for publishers of software and textbooks, a list of general books on learning disabilities, and a case study on the identification and implementation of services for a learning disabled student.

It is hoped that this handbook will serve as a useful reference for teachers, administrators, and students in teacher training programs across the state of North Carolina.

Acknowledgements

Appreciation and gratitude are expressed to Dr. Susan Gurganus, formerly with the Division of Exceptional Children's Services, now Assistant Professor at the College of Charleston, for taking the major responsibility in writing this handbook. The user will benefit from her thoroughness of the subject matter and enjoy her easy to read, informal style of writing that makes the handbook "user friendly."

Mary Anne Tharin and David Mills assisted with the development of the handbook outline, offered suggestions on specific content, and proofed all drafts. Margaret Meany proofed the first section on guidelines and procedures. Thanks go to Lowell Harris, Director, Division of Exceptional Children's Services for arranging with Ethel Bright and other staff members of the Mid-South Regional Resource Center for helping administer the funding of the project.

It should be recognized that many of the studies noted in various sections of this handbook were conducted by faculty with teacher training programs in North Carolina colleges and universities. Their contributions to the field of learning disabilities continue to be recognized nationally.

Many teachers from across North Carolina who have participated in training sessions sponsored by the Division of Exceptional Children's Services have provided valuable feedback on what works with learning disabled students. These teachers have implemented learning strategies programs, reviewed instructional software, developed new transition programs, and conducted the day-to-day instructional activities for learning disabled students. Because of the efforts of these teachers, North Carolina's learning disabled students will be more successful in school and in their adult lives.

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Section One:

Definitions, Diagnosis, and Service Delivery

DEFINITIONS, DIAGNOSIS, AND SERVICE DELIVERY

In North Carolina, 4.6% of public school-aged children (51,253) are diagnosed as specific learning disabled (North Carolina Department of Public Instruction, 1990). This section will describe current definitions and procedures for identifying learning disabled (LD) students. The section will conclude with an overview of effective service delivery models.

1.1 Definitions

Public Law 94-142, the Education for All Handicapped Children Act, established the following definition of specific learning disability:

> "Specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, or emotional disturbance, or of environmental, cultural, or economic disadvantage (U. S. Office of Education, 1977).

Since 1977 several professional groups have proposed modifications of this definition. Most include a discrepancy between academic achievement and intellectual ability. Some of the most frequently cited include:

National Joint Committee for Learning Disabilities (1981):

> *Learning disabilities* is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions (e.g., sensory impairment, mental retardation, social and emotional disturbance), or environmental influences (e.g.,

cultural differences, insufficient/inappropriate instruction, psychogenic factors), it is not the direct result of those conditions or influences.

National Joint Committee for Learning Disabilities (1990):

Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur across the life span. Problems in self-regulatory behaviors, social perception, and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions (for example, sensory impairment, mental retardation, serious emotional disturbance), or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences.

Each state has adopted definitions and procedures for identifying students with specific learning disabilities. North Carolina's definition is as follows:

POLICY

Specific learning disability is an inclusive term used to denote various processing disorders presumed to be intrinsic to an individual (e.g., acquisition, organization, retrieval, or expression of information; effective problem solving behaviors). For the purpose of special education services, students ages 5 or older classified as learning disabled are those who, after receiving instructional intervention in the regular education setting, have a substantial discrepancy between ability and achievement. The disability is manifested by substantial difficulties in the acquisition and use of skills in listening comprehension, oral expression, written expression, reading, and/or mathematics. A learning disability may occur concomitantly with, but is not the primary result of, other handicapping conditions and/or environmental, cultural, and/or economic influences (*North Carolina Procedures Governing Programs and Services for Children with Special Needs*, .1501, A, 11; 1990).

Clarification of Selected Phrases

"Various processing disorders" refers to the breakdown of a student's ability to process information--a commonly accepted cause of learning disabilities. Unfortunately, our ability to assess processing factors is inhibited by the lack of reliable or valid assessment procedures. This does not mean that these factors should not be considered by the multidisciplinary diagnostic/evaluation team because they may provide additional support for the diagnosis. Classroom observation can provide valid and important information on these factors. However, the relationship of the results to the student's academic performance should be clearly established.

"Presumed to be intrinsic to the individual" implies that the locus is from within the individual, not caused by external and/or environmental factors.

"Acquisition, organization, retrieval, or expression of information" are examples of processes which may be disordered. Any or all of these factors can reflect how the LD student reacts to academic progress or pressures. It is the degree of intensity to which these factors are affected that should be considered. Observation of how the student manipulates information in an academic atmosphere could provide additional insight.

"Effective problem solving behaviors" are closely related to reasoning skills and may be exhibited on tasks that are academic, behavioral, or social in nature. A student must employ strategies of effective problem solving such as recognizing the problem, evaluating the problem, persisting in problem solving, and making appropriate choices.

"For the purpose of special education services, a student classified as learning disabled is one who, after receiving instructional intervention in the regular education setting, has a substantial discrepancy between ability and achievement." Students may have a learning disability but have learned to compensate for their areas of deficit, therefore, do not need special education services.

"Substantial discrepancy between ability and achievement" lends flexibility to the scope and severity of a learning disability. Typically, a learning disability affects more than one area of achievement and presents problems which are consistent, pervasive, and persistent.

"Listening comprehension" is the ability to understand heard verbal informational aspects of a language system. Among areas involved are: following oral directions, remembering spoken information, understanding subtleties in word or sentence meaning, confusing words or sounds that are similar, and a sensitivity to noise that interferes with learning.

"Oral expression" is the ability to express oneself utilizing vocal speech and language. It is an area of learning disabilities that requires the services of both a speech-language specialist and the learning disabilities teacher. (If English is not the primary language of the home, this factor would not necessarily be considered a learning disability.) Among the areas involved are: production of meaningful language, appropriate verbal response time, adequate vocabulary to express ideas, age-appropriate grammar and sentence structure, and proper sequencing in story telling.

"Written expression" is one of the highest forms of communication, reflecting a person's level of comprehension, concept development, and instruction in areas such as handwriting, sentence composing, punctuation, capitalization, spelling, and expression of ideas in an organized manner.

Additional information on learning disabilities definitions can be obtained from the following sources:

Hammill, D. D. (1990). On defining learning disabilities: An emerging consensus. *Journal of Learning Disabilities, 23*, 74-85.

Lerner, J. (1988). *Learning Disabilities: Theories, Diagnosis, and Teaching Strategies.* Boston: Houghton Mifflin Company.

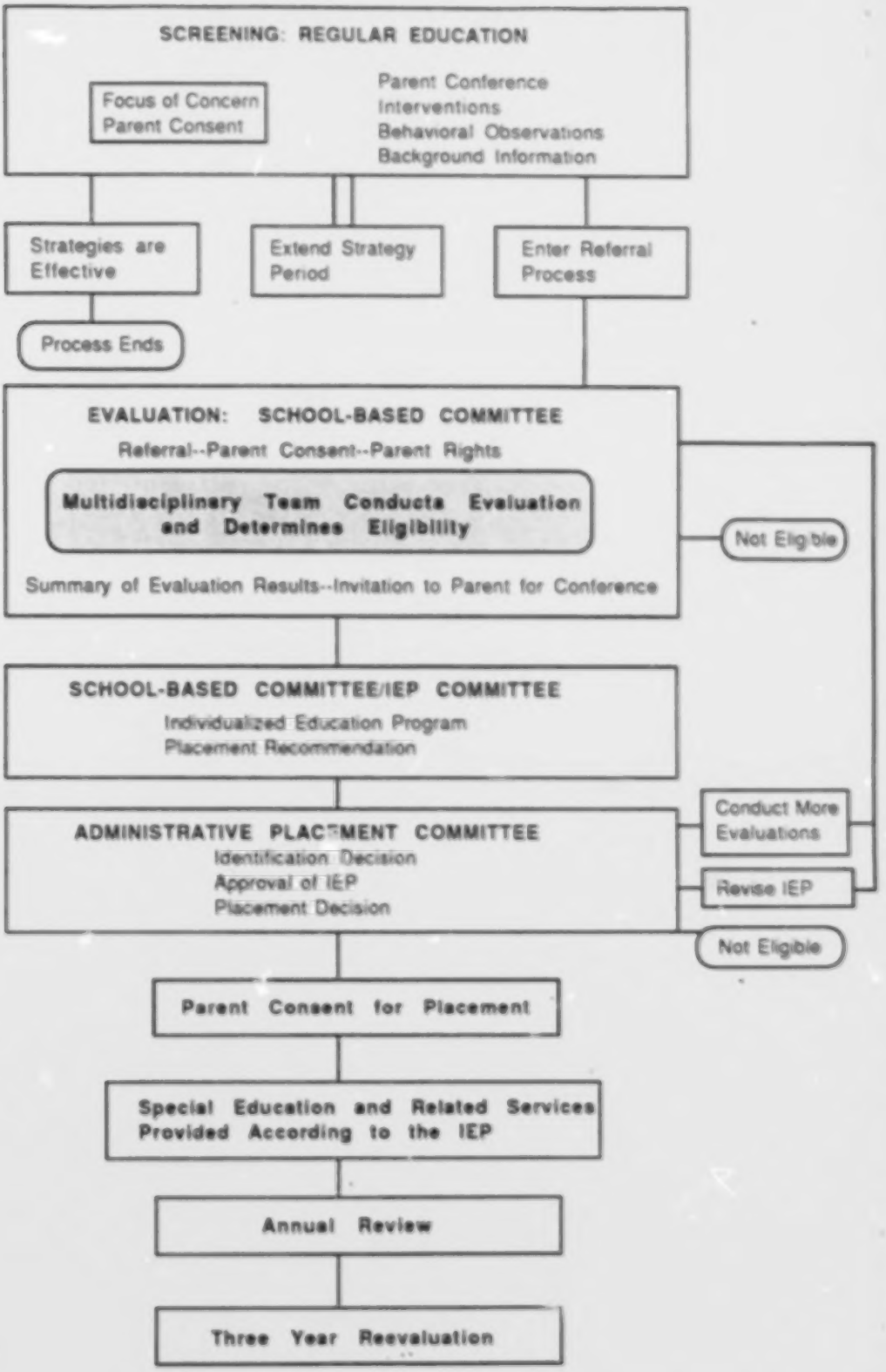
Mercer, C. D., King-Sears, P., & Mercer, A. R. (1990). Learning disabilities definitions and criteria used by state education departments. *Learning Disabilities Quarterly, 13*, 141-152.

Wong, B. Y. L. (1989). Is IQ necessary in the definition of learning disabilities? Introduction to the special series. *Journal of Learning Disabilities, 22*(8).

1.2 The Diagnostic Process

Because of the elusive nature of learning disabilities, the diagnostic process is multifaceted. The information presented in this section applies only to procedures adopted in North Carolina. Sections of the text which are indented have been taken directly from the documents *Procedures Governing Programs and Services for Children with Special Needs* (1991) and *Statewide Exceptional Children Forms* (1988). The flowchart on the following page will serve to illustrate the stages in the identification process.

THE DIAGNOSTIC PROCESS



Screening

When a teacher, parent or any other person suspects that a student has a specific learning disability..., screening information must be collected and considered in order to make decisions regarding the need for further educational interventions and/or referral to the school-based committee for further evaluations. This is a regular education responsibility. (Statewide Exceptional Chidlren Forms RE 1 and 2)

The following screening information shall be collected and considered for students ages five and older in order to make decisions regarding further educational interventions and/or evaluations:

(a) dated documentation of conferences or attempts to conference with parents or guardians concerning the student's specific problems.

(b) dated and signed documented evidence of at least two interventions attempted within the regular education setting and the effect of each. Those interventions should be designed in consultation with other staff members and may include, but not be limited to, changes in the student's class schedule, curriculum, teachers, instructional techniques, and interventions by student services personnel.

(c) behavioral observation(s) by an appropriate third-party observer and/or other evidence, such as work samples, which describe and document the student's learning problem.

(d) information concerning the student's:

- (i) educational history;
- (ii) medical history;
- (iii) school attendance record;
- (iv) performance in relation to peers (e.g., group or individual screening intelligence and achievement tests, criterion referenced tests and work samples);
- (v) social functioning; and
- (vi) environmental and cultural status.

(e) vision screening for near and far vision acuity.

(f) hearing screening. (*Procedures*, .1509, G, 2)

The statewide form entitled "Focus of Concern/Screening" was developed to summarize the information required in screening for a suspected learning disability. The building-based staff support team or equivalent notifies parents of the screening procedures and collects the information required. Then the committee decides whether the student should continue in the regular education program or be referred to the School-Based Committee for evaluation.

The screening committee should be cautious in assuming a student is learning disabled and screen for any possible disability or problem that may be causing educational difficulties. According to research conducted in North Carolina schools, 29% of students suspected of having a learning disability or behavioral/emotional handicap

were identified as such after screening and evaluation. The screening procedures, including the required educational interventions, have reduced the number of students actually referred to the School-Based Committee by 42% (North Carolina Department of Public Instruction, 1987). Informal comments reflected that regular classroom teachers were implementing more classroom modifications and other interventions to meet individual needs, therefore making more appropriate referrals.

In a national survey of prereferral practices, Carter and Sugai (1989) found that of the 50 states, 23 required prereferral intervention and 21 recommended its use. The most commonly used interventions were instructional modifications, counseling, and behavior management strategies.

Additional information on prereferral intervention may be obtained from the following sources:

Carter, J., & Sugai, G. (1989). Survey on prereferral practices: Responses from state departments of education. *Exceptional Children, 55*, 298-302.

Fuchs, D., Fuchs, L. S., Bahr, M. W., Fernstrom, P., & Stecker, P. M. (1990). Prereferral intervention: A prescriptive approach. *Exceptional Children, 56*, 493-514.

Graden, J. L. (1989). Redefining "prereferral" intervention as intervention assistance: Collaboration between general and special education. *Exceptional Children, 56*, 227-231.

Graden, J. L., Casey, A., & Bonstrom, O. (1985). Implementing a prereferral intervention system: Part II. The data. *Exceptional Children, 51*, 487-496.

Graden, J. L., Casey, A., & Christenson, S. L. (1985). Implementing a prereferral intervention system: Part I. The model. *Exceptional Children, 51*, 377-384.

McCarney, S. B. (1989). *Learning disability intervention manual.* Columbia, MO: Hawthorne Educational Services.

McCarney, S. B., & Cummings, K. K. (1988). *The pre-referral intervention manual.* : Columbia, MO: Hawthorne Educational Services.

North Carolina Department of Public Instruction (1987). *An investigation into the effectiveness of the North Carolina prereferral and intervention model in terms of cost, time, referral appropriations, and impact of training models.* Raleigh.

Pugach, M. C., & Johnson, L. J. (1989). Prereferral interventions: Progress, problems, and challenges. *Exceptional Children, 56*, 217-226.

Evaluation

The School-Based Committee receives the screening committee's recommendation for an evaluation. This referral includes the reasons for referral and a description of strengths and weaknesses. The form entitled "Exceptional Children Referral" was developed for this purpose. The School-Based Committee must notify the parents that a referral has been made, request written permission to conduct the evaluation, and provide parents a copy of their due process rights. Parental permission must be obtained before the first individual evaluations are conducted.

The 90 day timeline begins with the date the referral is received by the School-Based Committee. Unless the committee determines that the student is not eligible for services or the parent refuses evaluation or placement consent, the placement must be made no later than 90 days after the referral date.

Multidisciplinary Team. The multidisciplinary team shall provide a team framework for evaluating a child suspected of having a learning disability. The multidisciplinary team shall consist of, but not be limited to:
(a) the student's regular teacher;
(b) if the child does not have a regular teacher, then a regular classroom teacher qualified to teach a child of his/her age;
(c) a person certified or trained in the area of learning disabilities;
(d) at least one person qualified by the State Department of Public Instruction to conduct individual diagnostic examinations of children, such as a:
(i) school psychologist;
(ii) speech-language specialist;
(iii) remedial reading teacher; or
(iv) specific learning disability teacher.
The major responsibilities of the multidisciplinary team are:
(a) to collect or assist in compiling all data relevant to the determination of eligibility;
(b) to appoint one member of the team (other than the student's regular teacher) to observe the student's performance in the classroom setting and note relevant behaviors;
(c) to review all available data, including the observational data;
(d) to make a collective group decision as to whether or not the student meets the eligibility criteria, based on all required data;
(e) to write a report addressing all of the following areas:
(i) relevant behaviors noted during observation and the relationship of that behavior to the student's academic functioning;
(ii) educationally relevant medical findings, if any;
(iii) whether there is a significant discrepancy between current achievement and ability, which is not correctable without special educational and related services;
(iv) the basis of making the discrepancy determination;

(v) the determination of the team that the significant discrepancy is not primarily the result of another handicapping condition, environmental, cultural and/or economic influences and/or lack of appropriate school experiences commensurate with age and ability;

(vi) whether the student has a specific learning disability.

(f) to have each team member certify by signing the written report with individuals providing statements of dissent from the decision. In case of disagreement among team members, the majority will constitute the decision. If the team composition is an even number and the decision is split, a person knowledgeable in the area of learning disability as specified by the Exceptional Children Program Administrator shall be added to the team. A team member in disagreement with the team decision must submit a separate statement presenting his/her conclusion.

(g) to recommend an educational program to meet the unique instructional needs of the student and to provide recommendations to be used in the development of an individualized education program (*Procedures*, .1509, G, 5-6);

Evaluation Procedures for Students Ages Five and Older. The evaluation of students ages five and older to determine eligibility for a learning disability program involves four steps: determine the student's current intellectual functioning; determine the student's current level of academic functioning; determine the amount of discrepancy between current intellectual functioning and academic functioning; and document that the discrepancy is the result of a learning disability including descriptions of learner characteristics and behavior.

Psychological Evaluation. The student's cognitive/intellectual functioning must be assessed by using a recent revision of an appropriate standardized and validated intelligence test. This evaluation shall be conducted by a certified school psychologist or a licensed psychologist. Variability or "scatter" within intelligence measures is expected and normal. It is inappropriate to select the higher of subscale, subtest, factor, or other scores for use as an estimate of intellectual functioning without considerable supporting evidence including other assessment results. When there are verbal/performance IQ discrepancies of at least 20 points on the Wechsler Scale, the higher scale IQ may be used to determine the achievement-ability discrepancy providing there is evidence that the higher score accurately reflects the student's intellectual functioning. Because of the importance of the intellectual assessment to the identification process, group intelligence tests, unjustified prorated scores, or extrapolated scores and abbreviated forms shall not be used.

Educational Evaluation. Evaluation of academic functioning for learning disabilities has two primary purposes:

(i) to define the level of functioning in order to determine a substantial discrepancy, and

(ii) to identify learner and environmental characteristics that can be used to document that the discrepancy results from a learning disability and to plan intervention strategies and program development.

Achievement difficulties may be identified in the areas of listening comprehension, oral expression, written expression, reading, reasoning and/or mathematics. Individually administered, standardized, norm-referenced achievement tests are required to determine a discrepancy. Other procedures, such as curriculum-based assessment, review of written classwork, classroom observations of performance and expectations, criterion-referenced instruments, and informal tests, should also be used to document specific disabilities. Comprehensive assessment of academic functioning should be conducted by professionals specifically trained to administer and interpret norm-referenced, criterion-referenced and other diagnostic measures of achievement. Such professionals might include school psychologists, specially trained teachers or counselors. Achievement information obtained from more than one source must be integrated for a comprehensive view of academic functioning.

Discrepancy Determination. Subtract achievement age standard score from the IQ score, assuming both measures have a mean of 100 and standard deviation of 15. If the test does not have a mean of 100 and standard deviation of 15, statistical procedures shall be implemented. Determine if the discrepancy is 15 points or more between achievement and ability. In cases where the multidisciplinary team determines that assessment measures did not accurately reflect the discrepancy between academic functioning and intellectual functioning, appropriate documentation must be used to verify the discrepancy. If norm-referenced tests are not available for a particular area of achievement or the multidisciplinary team determines that the assessment measures did not accurately reflect the discrepancy between achievement and ability, the team shall state in writing the assessment procedures used, the assessment results, the criteria applied to judge the importance of any difference between expected and current achievement, and whether a substantial discrepancy is present that is not correctable without the provision of special education.

* *See the note on documenting a discrepancy alternative, p. 16.*

Documentation of Specific Learning Disability. This documentation will involve a systematic procedure for comparing information gathered in the evaluation process to identify behavioral and academic patterns of strengths and weaknesses (e.g., standardized tests, informal tests, observations, interviews, work samples, measures of adaptive and/or affective behaviors) (*Procedures*, .1509, G, 4).

Additional information on evaluation may be obtained from the following sources:

Council for Exceptional Children. (1984-85). *Diagnostique monograph: Perspectives in special education assessment, 10* (1-4).

Department of Public Instruction. (1989). *Guidelines for Testing Exceptional Students.* Raleigh: author.

Salvia, J., & Ysseldyke, J. E. (1985). *Assessment in Special and Remedial Education.* Boston: Houghton Mifflin Company.

Wong, B. (Ed.). (1989). *Exceptional Children, 22*(8), [Entire issue of journal on the place of IQ in defining learning disabilities].

Silver, L. B. (Ed.). (1989). *The Assessment of Learning Disabilities: Preschool through Adulthood.* Boston: Little, Brown and Company.

Evaluation Results

The form "Summary of Evaluation Results" was developed for the evaluation summary which is sent to the parent or guardian. A conference to interpret the evaluation should be scheduled as soon as possible by the school-based committee; the form "Invitation to Conference" may be used. This form was developed to ensure that parents or guardians receive the appropriate information about conferences including what conferences will be about and who will be in attendance. The conference to review evaluation results may also include the development of an Individualized Education Program (IEP).

Eligibility Determination

The multidisciplinary team must determine the student's eligibility for services in a program for specific learning disabilities. The form "Multidisciplinary Team Report" is compiled using the information from the evaluation, the summary of evaluation results, and other data collected by the multidisciplinary team. The team must certify the discrepancy between ability and achievement, note relevant LD behaviors and/or medical findings, and rule out other possible causes of the discrepancy. Each team member must sign the report; a team member in disagreement with the team decision must submit a separate statement presenting his/her conclusion.

Individualized Education Program

After the determination by the multidisciplinary team that a student has a specific learning disability and is eligible for and in need of special education and related services, an individualized education program (IEP) must be developed. It is the

responsibility of the school-based committee to invite the parent or guardian to a meeting to develop the IEP.

The entire school-based committee or preschool transition/placement committee may or may not be involved; however, the following individuals must be involved in the development and writing of the individualized education program:

(1) A representative of the local educational agency other than the child's teacher who shall be qualified to provide, or supervise the provision of, specifically designed instruction to meet the unique needs of the child;
(2) The child's teacher;
(3) The parent(s) or guardian(s) of the child;
(4) The child, when appropriate;
(5) For a handicapped child who has been evaluated for the first time, the local educational agency shall have:
    (a) a member of the evaluation team participate in the Individual Educational Program meeting, or
    (b) a representative of the local educational agency, the child's teacher, or some other person present at the meeting who is knowledgeable about the evaluation procedures used with the child and who is familiar with the results of the evaluation

Other individuals at the discretion of the agency or the parent may be invited to attend the meeting (*Procedures*, .1512, B).

The individualized education program for each child must include:
(1) a statement of the child's present levels of educational performance;
(2) a statement of annual goals;
(3) a statement of short-term instructional objectives;
(4) a statement of specific education and related services to be provided to the child;
(5) a description of the extent to which the child will participate in regular education programs and a description of the program to be provided;
(6) the projected dates for initiation of services and the anticipated duration of services;
(7) objective criteria, evaluation procedures, and schedule for determining, on at least an annual basis, whether the short-term instructional objectives are being achieved (*Procedures*, .1512, C).

After the IEP goals and objectives have been developed by the IEP committee, the committee should discuss and prepare recommendations on the placement which would best meet the educational needs of the student. This is also documented on the IEP. The committee is not limited to the consideration of current programs.

...The principle determinants in selecting the program or service for each child shall be goals of the child's individualized education

program.... In providing services to a child with special needs, the first factor should be the degree to which the child will profit from such an arrangement rather than administrative considerations (*Procedures*, .1515, D).

Other issues for the school-based committee to consider and discuss include:

- education in the regular class setting to the maximum extent possible
- the school which the student would normally attend if at all possible
- as close as possible to the student's home
- consideration of consultant, supportive, remedial services, or special materials within the regular classroom before removal from that setting
- local public and/or private resources
- new programs developed only when services are not currently provided locally
- age of student
- nature and severity of handicap
- degree of intervention necessary
- pupil-teacher ratio
- continuum of programs and services
- the total educational program available including non-academic activities

It is appropriate for schools to provide parents training, information, and other preparation for IEP meetings. Parents should be encouraged to assume an active role in the decision-making process. Parents can also be asked to notify the school in writing in advance of the IEP meeting if they intend to request a dramatically different program (e.g., parents may have been advised by an evaluator external to the LEA to request a specific type of program). This notice would allow the school time to prepare data and information on options, and prevent the delay of the provision of special education services.

Additional information on individualized education programs may be obtained from the following sources:

Arena, J. (1989). *How to write an I. E. P.* Novato, CA: Academic Therapy Publications.

Fiscus, E. D., & Mandell, C. J. (1983). *Developing Individualized Education Programs.* St. Paul: West Publishing Company.

Houck, C. K. (1984). Developing appropriate intervention. In *Learning Disabilities: Understanding Concepts, Characteristics, and Issues.* Englewood Cliffs, NJ: Prentice-Hall, Inc.

Lerner, J., Dawson, D., & Horvath, L. (1980). *Cases in Learning and Behavior Problems: A Guide to Individualized Education Programs.* Boston: Houghton Mifflin Company.

Placement

The school-based committee forwards to the administrative placement committee (APC) the committee recommendation of the IEP and the placement which would best meet the educational needs of the student along with supporting information. One member of this committee must be someone from the central office of the local educational agency who has been designated by the superintendent as eligible to commit financial or other resources. Other members may include the exceptional children program administrator, chairperson of the school-based committee, superintendent or designee, general supervisor, school psychologist, representative of external agency, other appropriate personnel. At least one member of the APC should be of the same race as the student being considered for special education placement.

It is the function of the administrative placement committee to make final decisions about the classification of students as special needs and placement of students in programs for exceptional children. This committee also ensures compliance with due process procedures in the identification and placement of students, makes arrangements with other agencies for external placements, approves the IEP, and ensures that eligible students are placed in the appropriate program within 90 calendar days of receipt of the referral, unless parental permission is refused (*Procedures*, .1507).

Parental Permission

Before the initial placement of an exceptional child into a program, parental consent must be obtained. The administrative placement committee should ensure that parents have had the opportunity to participate in the development of the IEP and have received the evaluation summary and *Handbook on Parents' Rights (1991).* It is recommended that the school-based committee obtain parental permission for placement at the time the IEP is developed and a placement recommendation is made so that the administrative placement committee can note the involvement of the parent in the decisions.

Special Education Services

The IEP must be in effect before special education and related services are provided to the child. The date services are to begin must be later than the date of the

IEP Committee meeting and later than the administrative placement committee meeting for students considered for initial placement. The IEP must be implemented as soon as possible following the individualized education program meeting. It is the responsibility of the school-based committee to ensure that the IEP is implemented and that all appropriate teachers receive the IEP and pertinent information necessary for working with the student.

1.3 Notes and Comments

Timelines

Internal timelines in the referral to placement sequence were deleted effective December 7, 1989 by the State Board of Education. It is the responsibility of the administrative placement committee to ensure that an eligible child with special needs is placed in the appropriate special program within 90 calendar days of receipt of a referral, unless the parent refuses to give consent for evaluation or placement (*Procedures* .1507, B, 9).

Evaluation Instruments

No specific battery of instruments is recommended by the Department of Public Instruction. However, instruments selected should offer a wide range of measurement capabilities. For example, instruments should offer mathematics calculation and reasoning, reading recognition and comprehension, and an array of written language components. In addition, only those tests with appropriate validity and reliability should be administered to determine discrepancy.

Documenting a Discrepancy Alternative

The *Procedures* provide an option for documentation of a student's learning disability which is not accurately reflected in standardized testing, but is reflected in school achievement (.1509, G, 4, c). This discrepancy alternative is to be used for identification and placement of those students who demonstrate a specific learning disability (SLD), but do not meet the 15 or more point discrepancy. This alternative is not designed to identify all students who have learning problems, but is to be used with those who manifest a specific learning disability. Each case is unique in nature and should be considered independently.

The student's multidisciplinary team must develop a justification for classifying the student as SLD by addressing each of the following:

1. The assessment procedures used (tests, questionnaires, interviews, observations);
2. The assessment results, including:
   a. current psychological evaluation data (reference to particular subtest patterns or factors that reflect student potential);
   b. comparison to available historical cognitive data;
   c. achievement test(s) scores and description of strengths/weaknesses;
   d. additional tests (cognitive, criterion references, informal inventories, diagnostic, teacher developed, annual testing program information, or language assessment);
   e. assessment from other sources if available (e.g., medical, other public or private evaluations);
   f. parent information regarding health issues, developmental milestones, and home adaptive and social behaviors;
   g. classroom observations, formal and informal, which show evidence of significant difficulties in such areas as: time on task, time for organizing and beginning tasks, time to complete tasks, ability to meet classroom demands;
   h. work samples which support difficulties in classroom performance that may not be evident in a formal setting. These samples should include the date and specific teacher instructions for the assignment. In order to put the student's difficulties into perspective, an "average" student's work samples of the same assignments could be used for comparison;
   i. anecdotal records; and
   j. additional information related to SLD characteristic behaviors;
3. The criteria applied to judge the importance of any difference between expected and current achievement, and whether a substantial discrepancy is present. (Use the information in #2 to support statements and conclusions); and
4. The area(s) (e.g., reading, mathematics, written language) in which the student will need services due to his/her specific learning disability recognizing that the discrepancy is not correctable without special education.

It is recommended that all team members sign the narrative and that the narrative is stapled to the Multidisciplinary Report. It is at the discretion of the LEA to have an APC review of all discrepancy alternatives.

Committees

> The school-based committee, individualized education program committee, ... multidisciplinary team, and administrative placement committee may be combined into one committee or a combination of committees to meet the needs of the particular local educational agency. To combine committees, local educational agencies must submit the procedures to the Division of Exceptional Children's Services for written approval. In combining the committees, local educational agencies must meet the requirements in Section .1512. If the category is specific learning disabilities, the unit must also meet the requirements of .1509(6) (*Procedures*, .1507, D).

Due Process

Information on due process procedures for parents and children can be found in *Procedures Governing Programs and Services for Children with Special Needs* (.1517) and in the *Handbook on Parents' Rights* (1991).

Parental written consent must be obtained before conducting the preplacement evaluation and for the initial placement of a child with special needs in a program. Consent is not required prior to reevaluations or changes in placement. Prior notice is a requirement in those situations.

It should be noted that the local education agency may also request administrative review under due process procedures if it feels that the child must have exceptional children services in order to receive an appropriate education and the parent refuses permission.

Additional information on due process may be obtained from the following sources:

Budoff, M., & Orenstein, A. (1982). *Due Process in Special Education: On Going to A Hearing.* Cambridge, MA: Brookline Books.

Division of Exceptional Children's Services. (1991). *Handbook on Parents' Rights.* Raleigh: Department of Public Instruction.

IEP Content

The *Statewide Exceptional Children Forms* were developed to ensure compliance with federal and state regulations. The form entitled "Individualized Education Program/Service Delivery Plan" meets the state and federal requirements of the IEP.

An attachment to the IEP provides recommended exemptions or modifications for student participation in North Carolina testing programs. One would expect that a student who requires specific modifications on a NC test would also require these special considerations for testing or instruction throughout the school year. Each modification should be accompanied by an instructional strategy in the IEP. For example, if the student is to have directions on audiotape for the math portion of the competency test, tests given orally should be a strategy for the classroom.

In Part IV, the student's participation in vocational education should be described. If the student is participating in regular vocational education without any modifications to compensate for his/her handicap, the only notation needed is in Part IV and in Part III, C (description of the regular program). If modifications or special vocational programming are provided, they must be documented with goals and objectives.

The Education of the Handicapped Act Amendments of 1990 (P.L. 101-476), the Individuals with Disabilities Education Act (IDEA), now require as a part of the IEP "a statement of the needed transition services for students beginning no later than age sixteen and annually thereafter (and when determined appropriate for the individual, beginning at age fourteen or younger), including, when appropriate, a statement of the interagency responsibilities or linkages before the student leaves the school setting." "In the case where a participating agency, other than the educational agency, fails to provide agreed upon services, the educational agency shall reconvene the IEP team to identify alternative strategies to meet the transition objectives."

"Transition services means a coordinated set of activities for a student, designed within an outcome-oriented process, which promotes movement from school to postschool activities including postsecondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living or community participation. The coordinated set of activities shall be based upon the individual student's needs, taking into account the student's preferences and interests, and shall include instruction, community experiences, the development of employment and other postschool adult living objectives, and, when appropriate, acquisition of daily living skills and functional vocational evaluation." See Section 3.4 for more information on transition planning.

Annual Review

It is the responsibility of the school-based committee to ensure that at least annually the individualized education program committee conducts an annual review of the progress of each child placed in a special education program. The school-based

committee makes a decision regarding an updated IEP and continuation of the student in the program.

> The individualized education program shall be reviewed at least annually, and any necessary changes shall be made to the individualized education program. A review shall occur more frequently if warranted, and when requested by the teacher or parent. The student's parent(s) or guardian(s) must be invited to participate in the review. Recommendations for any change in the student's placement must be made to the administrative placement committee or to the preschool/transition placement committee. The student's parent(s) or guardian(s) must be notified of any change in placement, and due process procedures must be followed (*Procedures*, .1512, I).

The requirement of an annual review should not preclude more frequent checks of student progress. If a change in the student's IEP and/or a change in placement seems necessary, the IEP committee should be reconvened immediately.

At the time of the annual review (or sooner if necessary), the IEP itself should provide the vehicle for the review. Each short-term objective was developed with evaluative criteria; the attainment of each objective should be documented throughout the IEP period. Progress toward the annual (or long-term) goals can be measured using formal criterion-referenced measures, informal or curriculum-based measures, or other valid measures of progress. These measures provide information for determining present levels of performance for the next IEP.

There are several excellent references on functional assessment methods. Some of these are:

Bigge, J. (1988). Linking assessment to curriculum and instruction. In *Curriculum-Based Instruction for Special Education Students.* Mountain View, CA: Mayfield Publishing Company.

Fuchs, L. S., & Fuchs, D. (1986). Curriculum-based assessment of progress toward long- and short-term goals. *The Journal of Special Education, 20*, 69-82.

Fuchs, L. S., Fuchs, D., & Hamlett, C. L. (1990). Curriculum-based measurement: A standardized, long-term goal approach to monitoring student progress. *Academic Therapy, 25*, 615-634.

Guerin, G. R., & Maier, A. S. (1983). *Informal Assessment in Education.* Palo Alto, CA: Mayfield Publishing Company.

Hargis, C. H. (1987). *Curriculum Based Assessment: A Primer.* Springfield, IL: Charles C. Thomas Publisher.

Howell, K. W., & Morehead, M. K. (1987). *Curriculum-Based Evaluation for Special and Remedial Education: A Handbook for Deciding What to Teach.* Columbus: Merrill Publishing Company.

Idol, L., Nevin, A., & Paolucci-Whitcomb, P. (1986). *Models of Curriculum-Based Assessment.* Rockville, MD: Aspen Publications, Inc.

Mastropieri, M. A., & Scruggs, T. E. (1987). Evaluation. In *Effective Instruction for Special Education.* Boston: Little, Brown and Company.

Tindal, G. A., & Marston, D. B. (1990). *Classroom-Based Assessment.* Columbus: Merrill Publishing Company.

Tucker, J. A. (Ed.). (1985). *Exceptional Children, 52.*(3), [Entire issue on curriculum-based assessment.]

Zigmond, N. (1983). *Assessment for instructional planning in special education.* Englewood Cliffs, NJ: Prentice-Hall.

Reevaluation

Appropriate in-depth reevaluation of handicapped children must be completed at least every three years in order to determine the appropriateness of current educational status of students and to determine whether or not a student continues in or exits from a special education program. The date by which reevaluation must occur is determined by the date final placement was made by the administrative placement committee. Although each test does not have to be administered exactly three years from the date it was previously given, all tests must be completed prior to the time the committee reviews the placement decision. That review must be within three years of the time the last placement decision was made by the administrative placement committee. The parent must be given the result of the reevaluation in writing after the reevaluation has been completed and all other components of prior notice as defined in .1517.

Parental approval is not required prior to reevaluation. The parent(s) must be provided written prior notice that the child is being reevaluated and the notice must meet the requirements of Section .1517. If the parent objects, the due process procedures set forth in .1517 of this Section may be followed. If a child's performance/behavior warrants or if the child's parent or teacher requests reevaluation before the three-year period has expired, a referral for reevaluation should be made. Students who upon reevaluation no longer qualify for placement in a special education program are not to remain in the program beyond the present grading period. (*Procedures*, .1511)

For learning disabled students, the screening procedures in Section .1509 are required for the initial placement only. These include conferences with parents, at least

two interventions, behavioral observations, and background information on the student. An SLD student being reevaluated would need to be observed by a third party to fulfill the requirements of the multidisciplinary team report. The multidisciplinary team is responsible for evaluating a child for continuation in or exit from the specific learning disability program at the time of reevaluation.

Sometimes local education agencies elect not to reevaluate students during their final year in school if the reevaluation date falls that year. One concern is that a student may be required to exit the program during the last year of school causing disruptions in final academic work and in transition plans and services. Post-school agencies (e.g., vocational rehabilitation, colleges) have expressed concern that students requiring post-school services should have current evaluation data in order that services not be delayed. Some colleges may require a larger discrepancy between ability and achievement than the public schools when they must arrange for an evaluation. A potential resource for junior or senior year reevaluations of students needing post-school services is vocational rehabilitation.

Specific Learning Disability as a Secondary Disability

The school-based committee may decide that a student has a learning disability which requires special education services, but there is a primary disability such as a visual impairment, hearing impairment, or speech-language impairment. The student is identified by his/her primary disability for reporting purposes. The IEP should consider both disabilities as an educational program is planned. Only one IEP should be written for a given student.

A student identified as academically gifted who is also learning disabled should be classified by the exceptionality requiring the most intervention for reporting purposes. An individualized component which reflects the needs of the individual student should be attached to the Group Education Program (*Procedures*, .1512, K).

Attention-deficit Hyperactivity Disorder

Attention-deficit Hyperactivity Disorder (ADHD/ADD) is a timely topic that is receiving widespread press. Schools and school systems are asking, "What is it, how do we diagnose it, and whose responsibility are the children with the disorder?"

The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III-R) describes two types of attention deficit: Attention-deficit Hyperactivity Disorder and Undifferentiated Attention Deficit Disorder. The first is characterized by behaviors of

inattention, impulsivity, and hyperactivity; the second is characterized by significant inattentiveness and impulsivity, but an absence of hyperactivity.

Multidisciplinary evaluation that rules out other factors related to medical, emotional, or environmental variables which could cause similar symptoms is recommended to diagnose ADHD/ADD. Differential diagnosis by professionals might include medical studies, educational and psychological assessments, speech and language assessment, and behavioral rating scales completed by the students' teachers and parents.

The North Carolina general education model for support of at risk students, Student Service Management Teams, appears to be an appropriate approach to facilitate the differential diagnostic process. In schools where the Student Service Management Team has not been adopted, a Building-based Staff Support Team/Assistance Team could be substituted. The team's collaborative process is available to follow a student through the diagnosis and service delivery in the regular education classroom that might include altering the learning environment, enhancing self-esteem, self-management behavioral instruction, and medication. Medication is not a cure for this disorder but helps some students focus attention and should be supported by other techniques.

The relationship between ADHD/ADD and LD is unclear. Recent studies have found that approximately 10 percent of children diagnosed as ADD also demonstrate LD. The percentage of LD students who have concomitant ADHD/ADD vary from 33% to 80% depending on the study design (Interagency Committee on Learning Disabilities, 1987).

Unless a student meets eligibility criteria for special education services as specified by *Procedures Governing Programs and Services for Children with Special Needs*, appropriate education must be provided in regular education according to the Rehabilitation Act of 1973 (Section 504), a civil rights statute. In other words, an ADD student may not be eligible under P. L. 94-142, the Individuals with Disabilities Act, but under Section 504 may be considered handicapped or having a physical or mental impairment which substantially limits one or more major life activities. Learning is included under Section 504 as a major life activity function.

References

American Psychiatric Association (1987). *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed.). Washington, D. C.: Author.

Interagency Committee on Learning Disabilities (1987). *Learning disabilities: A report to the U. S. Congress.* Bethesda, MD: National Institute of Health.

1.4 Service Delivery Models

Schools must provide a continuum of options for handicapped students according to P. L. 94-142. The service delivery options include regular classes, indirect or direct services within regular classes, resource room classes, self-contained or separate special classes, separate school facilities, public or private residential facilities, hospital programs, and homebound services. The following descriptions of each option may assist teams in making placement decisions.

Continuum of Services

Regular Class. The regular classroom is where most students receive instruction. For the purposes of state and federal reporting, students receiving special education and related services for less than 21% of the school day are considered to be in a regular class placement. These students may be receiving indirect services through the consultation of the special education teacher, direct special education or related services in the regular classroom, or special education or related services provided for a limited amount of time outside the regular classroom. Fifty-three percent of learning disabled students in North Carolina receive services in this placement.

Resource Class. The resource class placement is a class where special needs students receive special education and/or related services for between 21% and 60% of the school day. Thirty-nine percent of learning disabled students in North Carolina receive services in this placement. A variety of models provide special education services for 21% to 60% of the school day in special or regular education settings including, but not limited to, pull-out, cooperative teaching, and parallel curriculum programs.

Separate Class. A separate class placement is a class where a special needs student receives special education and/or related services for more than 60% of the school day. Eight percent of learning disabled students in North Carolina receive services in this placement.

Separate School Facility. A separate school facility, either private or public, is an appropriate placement for special needs students only when it can be documented that the student's needs cannot be met in less restrictive settings and there is a clear educational advantage for the student. This setting usually precludes any time during the

school day in regular classes or with nonhandicapped peers. Only .05% of learning disabled students in North Carolina receive services in this placement.

Public or Private Residential Facility. Residential facilities provide education and treatment services to special needs students who cannot be served in less restrictive settings. Students are boarded and lodged as well as taught. Sometimes other agencies provide treatment or related services not directly related to the student's educational program. Only .003% of learning disabled students in North Carolina receive services in this placement.

Hospital and Homebound Programs. Any exceptional student who is disabled to the degree that it is impossible or medically inadvisable for him/her to attend public school even with the provision of special education and related services is eligible for hospital or homebound services. A medical statement must describe the handicap, physical or psychological limitations of the student, and anticipated length of time the services are needed. Children are provided instruction based on their individual needs for a minimum of three hours per week (unless prohibited for medical reasons). Only .04% of learning disabled students in North Carolina receive services in this placement.

Other Topics Related to Service Delivery

Related Services. A variety of related services must also be available either through school or contracted services. These services include, but are not limited to, transportation, audiology, braillist services, case management, diagnostic-prescriptive services, interpreters, occupational therapy, physical therapy, orientation and mobility training, parent counseling, therapeutic recreation, school health services, and speech and language services.

Class Size. Students with learning disabilities must be served in classrooms that do not exceed the maximum class size either in regular or special classes according to state regulations. At the time of this printing, special class settings for learning disabled students may not exceed 8 students per class period in the resource setting or in a departmentalized or block setting (the teacher may not carry more than 25 students per day). Class periods are approximately 55 minutes across grade levels but vary from district to district and school to school. It is the responsibility of the local education agency to define "class period." In the self-contained, separate class setting there may not be more than 12 students per teacher. Teachers who provide direct services may not exceed 35 students a week. It is recommended that multicategorical classes use the limits set for the more restrictive category. (A class size task force is in the process of examining this issue and may recommend changes.)

The data show that the primary placement option for learning disabled students is the regular classroom. Lerner (1988) provides the following reminders to educators considering this placement:

1. Regular classroom teachers are sometimes hesitant and even fearful about providing for the needs of special students in their classrooms. If it is to succeed, mainstreaming must be viewed as a systematic process. It requires a team approach and should be a shared responsibility of all the educators in the school.
2. When learning-disabled students are mainstreamed into regular classrooms, they often need some supportive services. Providing such services is the responsibility of the special education teacher.
3. Many learning-disabled students are not well accepted socially by their peers in the regular classroom. Mainstreaming itself may not lead to greater social interaction...or social acceptance.
4. Acceptable classroom behaviors are even more important than academic competencies for success in the mainstream....the most essential skills (are) interacting positively with other students, obeying class rules, and displaying proper work habits.

The placement alternatives described in this section have been provided in terms of the student's instructional setting--from the student's point of view. These placement categories do not indicate the type of program offered, the number of teachers the student may have, or the services being offered other students in the same location. Information on specific programs and interventions are provided in Section Two.

References

Lerner, J. (1988). *Learning Disabilities: Theories, Diagnosis, and Teaching Strategies.* (p. 139). Boston: Houghton Mifflin Company.

North Carolina Department of Public Instruction (1990). *Certified headcount for special education: December 1.* Raleigh.

Section Two:

Effective Instruction And Planning

> "Although placement option has been considered a form of treatment, it appears that setting, per se, is not a major factor in student outcomes and may account for inconsistent findings found in efficacy research. More important are the features of instruction that occur in the setting..." (Kavale, 1990, p. 51).

Decisions regarding how instruction will be designed and implemented carry more importance for students with learning disabilities than those of setting selection. Although the IEP was intended to be the tool for making instructional decisions, it does not address some instructional issues such as grouping students or the integration and focus of content area curricula. This section will provide information on effective instructional practices with learning disabled students, ideas for organizing the curriculum, and examples of instructional delivery models.

2.1 Effective Instructional Practices

The literature is replete with discussions of effective instruction with various types of students. The population of students classified as learning disabled are as heterogeneous as the school population as a whole. Any discussion of what could be effective with LD students must be preceded by a word of caution. Educational interventions cannot be applied and expected to work like a physician administering medication. Numerous variables may influence the teaching-learning process; what works in one setting, with one teacher, and one student may not work for others. Nevertheless, the following instructional techniques have proven to be effective with many types of students in differing contexts. These techniques are by no means inclusive or exclusionary.

Mastery Learning

Mastery learning was developed by B. S. Bloom from Carroll's Model of School Learning. Carroll believed that learning was a function of time spent learning, time needed to learn, learner characteristics, and the quality of instruction. Bloom activated this model by challenging educators to manipulate the amount of time a student needs to learn and the quality of the instruction, thereby allowing most students to achieve high levels of performance. The optimistic view that children can learn conveys teacher

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expectations that can influence student behavior. Three elements of mastery learning include:

1) Instructional objectives are specified and the curriculum is broken down into one or two week units; performance objectives are set high and students are given pre-tests. Students are allowed ample time to reach mastery.

2) Progress tests are given at the end of each unit. Students who have not reached mastery are provided additional instruction; students who have reached mastery have valuable feedback on their progress and are usually provided alternative instruction, enrichment, or review of previous skills.

3) Students take a post-test to determine overall achievement. The results of these summative tests are used in grading.

In mastery learning the teacher must make decisions about pacing instruction for mastery and content coverage. Issues related to this approach include the effects of slowing the pace on the more able students, the amount of time mastery for most students requires, and whether content mastery or content coverage (exposure) is more important. For students with learning disabilities, mastery learning may provide needed content mastery and the added benefit of experience with success.

For more information on mastery learning, consult the following sources:

Bloom, B. S. (1971). Mastery learning. In J. H. Block (Ed.), *Mastery learning: Theory and practice*. New York: Holt, Rinehart and Winston.

Fuchs, L. S., Tindal, G., & Fuchs, D. (1985). *A comparison of mastery learning procedures among high and low ability students*. Unpublished manuscript. Vanderbilt University, Nashville, TN. (ERIC Document Reproduction Service No. ED 259 307).

Goodman, L. (1990). *Time and learning in the special education classroom*. Albany: State University of New York Press.

Mevarech, Z. R. (1985). The effects of cooperative mastery learning strategies on mathematical achievement. *Journal of Educational Research*, 78, 372-377.

Stallings, J. A., & Stipek, D. (1986). Research on early childhood and elementary school teaching programs. In N. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed.). New York: MacMillan.

Direct Instruction

According to Rosenshine (1979), direct instruction "refers to academically focused, teacher-directed classrooms using sequenced and structured materials." Some

elements of direct instruction are: clear instructional goals, sufficient time allocated for instruction, extensive content coverage, structured interaction, continuous performance monitoring, low cognitive level questions, frequent opportunities for correct responses, and immediate feedback. The teacher plays the central role of selecting goals and materials and pacing instruction. Direct instruction lessons are often characterized by choral responses to signals from the teacher.

The five central components of this approach are:

1) Strong academic focus for large percentage of students' time.

2) The teacher selects and directs instructional activities.

3) Students are grouped for maximum monitoring and student engagement.

4) Controlled practice with frequent, low-level questions.

5) Reduction in wait-time and off-task behaviors when students are not engaged in teacher-directed activities.

Although packaged curricular programs such as DISTAR and Corrective Reading by SRA are based on direct instruction methods, the philosophy of direct instruction is that the techniques can be imposed upon existing curricula (Carnine & Silbert, 1979).

Issues related to direct instruction include the suitability for more sophisticated students, long-term benefits, and teacher preparation time if pre-packaged units are not used. The limited research to date is generally supportive of this approach with learning disabled students.

For more information on direct instruction, consult the following sources:

Carnine, D. W. (1979). *Direct instruction reading.* Columbus, OH: Merrill Publishing Company.

Darch, C., Carnine, D., & Gersten, R. (1984). Explicit instruction in mathematical problem solving. *Journal of Educational Research, 4,* 155-165.

Gersten, R. (1985). Direct instruction with special education students: A review of evaluation research. *The Journal of Special Education, 19,* 41-58.

Gersten, R., Woodward, J., & Darch, C. (1986). Direct instruction: A research-based approach to curriculum design and teaching. *Exceptional Children, 53,* 17-31.

Goodman, L. (1990). *Time and learning in the special education classroom.* Albany: State University of New York Press.

Heshusius, L. (1991). Curriculum-based assessment and direct instruction: Critical reflections on fundamental assumptions. *Exceptional Children, 57,* 315-328.

Kuder, S. J. (1990). Effectiveness of the DISTAR Reading Program for children with learning disabilities. *Journal of Learning Disabilities, 23,* 69-73.

Lewis, R. B., & Doorlag, D. H. (1991). Tips for the teacher: Direct teaching. In *Teaching special students in the mainstream* (3rd ed.). New York : Merrill. (Example of a direct instruction dialog teaching the spelling of the word avalanche.)

Rosenshine, B. V. (1979). Content, time, and direct instruction. In P. L. Peterson & J. H. Walberg, (Eds.), *Research on teaching: Concepts, findings, and implications.* Berkeley, CA: McCutihan.

Silbert, J., Carnine, D., & Stein, M. (1981). *Direct instruction mathematics.* Columbus, OH: Charles E. Merrill.

Simmons, D. C., & Kameenui, E. J. (1989). Direct instruction of decoding skills and strategies. *LD Forum, 15,* 35-38.

Wilson, C. L., & Sindelar, P. T. (1991). Direct instruction in math word problems: Students with learning disabilities. *Exceptional Children, 57,* 512-520.

Curriculum-Based Assessment

Curriculum-based assessment (CBA) is a relatively new term for an old practice--using the material to be learned as the basis for assessment (Tucker, 1985). According to Tucker, CBA "simply measures the level of achievement of a given student in terms of the expected curricular outcomes of the school." It is a method whereby the teacher focuses instruction at the "window of learning," that region between the frustration and boredom levels for each student. Other terms are frequently interchanged with curriculum-based assessment such as curriculum-based measurement, data-based instruction, and curriculum-based progress monitoring (Heshusius, 1991). The general steps for implementing CBA are:

1. List the skills of the curriculum in sequential order.
2. Write measurable (countable) behavioral objectives for each skill.
3. Construct a pool of test items to measure skill mastery for each objective.
4. Set level of mastery.
5. Conduct a pre-assessment of the skill to establish a baseline.
6. Provide the instructional intervention.
7. Measure objectives frequently (2 to 5 times a week) and chart.
8. Analyze performance trends and adjust interventions as needed.

Some examples of performance tasks are:

reading: timed reading of passage at instructional level
comprehension check of 10 questions from passage

writing: 3-minute writing assignment, number of words written

spelling: words spelled correctly in 3-minute task

math: 12 problems to compute in 2 minutes

According to Stephens (1977), the following guidelines help determine instructional levels: mastery--100% correct responses, learned--90-99%, instructional--70-90%, and frustration--69% or less. Special education teachers often provide instruction at a level that is actually in the frustration range where students are unfamiliar with 30% or more of the material. These teachers may not require high enough levels of learning before moving on in the curriculum, resulting in the next instructional demands to also be at the frustration level.

Advocates of curriculum-based assessment cite the close link between what is taught and what is tested, the ability to monitor student progress and make adjustments in interventions within short time frames, the ability to reference student performance to that of regular classroom peers, the clarity and simplicity of performance data, and the relatively low cost and time needed for testing. The courts have endorsed curriculum-based assessment as an appropriate prerequisite for more formal evaluation (pre-referral intervention) in the *Luke S. v. Nix Consent Decree* in Louisiana and as appropriate for the complete evaluation process in the *Larry P. v. Riles* decision in California.

Curriculum-based assessment, however, depends on the skill of the teacher (and the IEP committee) in targeting appropriate objectives and in implementing the strategy effectively. Some educators warn about the fragmentation of the curriculum when skills are taught and assessed in isolation, that real learning is not so easily quantified or imposed upon students (Heshusius, 1991).

For more information on curriculum-based assessment, consult the following sources:

Bigge, J. (1988). *Curriculum based instruction for special education students.* Mountain View, CA: Mayfield.

Deno, S. L., & Fuchs, L. S. (1987). Developing curriculum-based measurement systems for data-based special education problem solving. *Focus on Exceptional Children, 19*(8), 1-16.

Deno, S. L., Fuchs, L. S., Tindal, G., & Wesson C. L. (1987). Curriculum-based measurement [Special focus]. *Teaching Exceptional Children, 20*, 41.

Fuchs, L. S. Fuchs, D., Hamlett, C. L., & Allinder, R. M. (1991). The contribution of skills analysis to curriculum-based measurement in spelling. *Exceptional Children, 57*, 443-453.

Fuchs, L. S., Fuchs, D., & Stecker, P. M. (1989). Effects of curriculum-based measurement on teachers' instructional planning. *Journal of Learning Disabilities, 22*, 51-59.

Gliszczinski, C, & Wesson, C. L. (1989). Curriculum-based measurement. *LD Forum, 15*, 47-49.

Heshusius, L. (1991). Curriculum-based assessment and direct instruction: Critical reflections on fundamental assumptions. *Exceptional Children, 57*, 315-328.

Mercer, C. D., & Mercer, A. R. (1985). Assessment for teaching. In *Teaching students with learning problems*. Columbus, OH: Merrill.

Stephens, T. M. (1977). *Teaching skills to children with learning and behavior disorders*. Columbus, OH: Merrill.

Tucker, J. (1985). Curriculum-based assessment: An introduction. *Exceptional Children, 52*, 199-204. [Entire issue].

Wesson, C. L. (1991). Curriculum-based measurement and two models of follow-up consultation. *Exceptional Children, 57*, 246-257.

Wesson, C., King, R., & Deno, S. L. (1984). Direct and frequent measurement of student performance: If it's good for us, why don't we do it? *Learning Disability Quarterly, 7*, 45-48.

Precision Teaching

A method of closely monitoring student progress similar to curriculum-based assessment is precision teaching. Precision teaching was developed by Ogden Lindsley, a former student of B. F. Skinner. Lindsley developed precision teaching from a framework based on operant conditioning theory. Key elements include:

- the student's behavior is the best measure of effective instruction,
- behavior should be measured directly every day,
- rate of response or the number of correct answers per minute is a universal measure of student behavior,
- performance patterns can be noted from charted behavioral data,
- behavior should be described in functional terms,
- the effect of instruction on student behavior should be monitored closely, and
- a focus on building appropriate behaviors rather than eliminating inappropriate ones.

The entire Spring 1990 issue of *Teaching Exceptional Children* was devoted to precision teaching. This issue included an article by Lindsley and articles on how to implement precision teaching in the special education classroom in areas such as reading, attention span, and language.

Other sources on precision teaching include:

Lindsley, O. R. (1972). From Skinner to precision teaching. In J. G. Jordan & L. S. Robbins (Eds.), *Let's try doing something else kind of thing: Behavior principles and the exceptional child* (pp. 1-11). Arlington, VA: The Council for Exceptional Children.

White, O. R. (1986). Precision teaching--precision learning. *Exceptional Children, 52*, 522-534.

Levels of Learning Model

Whether an IEP committee is planning instructional objectives or a teacher is planning a single lesson, each must be aware of the levels to which instruction can be geared and from which performance is measured. These levels are acquisition, fluency, application, and generalization.

Acquisition refers to placing emphasis on accuracy rather than rate. For example in the initial stages of reading it may be more important to accurately identify letters than to identify them rapidly.

Fluency refers to the rate of performing a given skill. After a skill has been acquired, it may be appropriate to develop fluency so that the skill or behavior can be performed easily and without hesitation. Examples of areas where fluency is important are reading, recalling math facts, and riding a bicycle.

Application refers to the demonstration of a skill in an appropriate context. For example, knowing multiplication facts is not beneficial unless the student can use them in real math problems. Knowing the socially accepted way to greet someone is not helpful unless the student can demonstrate the skill in a real situation.

Finally, the most difficult level to achieve is that of *generalization*. This refers to the ability of students to demonstrate skills in appropriate but differing contexts, ones that have not been directly taught. In order to generalize skills, students must be able to recognize the appropriate situation, or one that is similar, and apply a skill (or sometimes a number of skills) appropriately. For example, students have learned to order food at a restaurant near the school. This activity required reading a menu,

placing the order, and paying for the order. Students who could generalize their learning were able to order food in another restaurant with a different menu.

Teachers of learning disabled students should guard against the tendency to focus instructional objectives at the acquisition or fluency levels. A characteristic of many students with learning disabilities is the inability to apply basic skills in real problem solving situations or to generalize skills to other contexts. Activities must be planned which provide students direct instruction in application and generalization strategies.

For more information on the levels of learning, consult the following sources:

Anderson-Inman, L. (1986). Bridging the gap: Student-centered strategies for promoting the transfer of learning. *Exceptional Children, 52*, 562-572.

Bower, G. H., & Hilgard, E. R. (1981). *Theories of learning* (5th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Gelzheiser, L. M., Shepherd, M. J., & Wozniak, R. H. (1986). The development of instruction to induce skill transfer. *Exceptional Children, 53*, 125-129.

Haring, N., Lovitt, T., Hansen, C., & Eaton, J. (1978). *The fourth R: Research in the classroom*. Columbus, OH: Merrill.

Howell, K. W., & McCollum-Gahley, J. (1986). Monitoring instruction. *Teaching Exceptional Children, 19*, 47-49.

Knapczyk, D. (1991). Effects of modeling in promoting generalization of student question asking and question answering. *Learning Disabilities Research and Practice, 6*, 75-82.

Lenz, B. K., Schumaker, J. B., Deshler, D. D., & Beals, V. L.. (1984). *Learning strategies curriculum: The word identification strategy*. Lawrence, KS: The University of Kansas.

Mastropieri, M. A., & Scruggs, T. E. (1987). *Effective instruction for special education*. Boston: Little, Brown and Company.

Niedelman, M. (1991). Problem solving and transfer. *Journal of Learning Disabilities, 24*, 322-329.

Simmons, D. C., & Kameenui, E. J. (1990). Academic learning problems and instructional design: Translating research into practice. *LD Forum, 16*, 2-5.

Vaughn, S., Bos, C. S., & Lund, K. A. (1986). ...But they can do it in my room: Strategies for promoting generalization. *Teaching Exceptional Children, 18*, 176-180.

Feedback

One of the most important teacher-effectiveness variables is the way in which feedback is provided students. Research has demonstrated that certain methods are superior to others. This research has outlined the most effective types of feedback for each type of student response.

For *correct student responses*, the teacher's feedback should be overt but not overly elaborate. The other students in the class should know that the response was correct. The teacher may repeat the answer or simply affirm its correctness. For rapid-paced drill, feedback should be quicker.

For *partially correct responses*, the teacher should acknowledge the correct aspect of the response, then provide a prompt or rephrase the question. If this fails to elicit a completely correct response, the teacher should either state the correct answer or call on another student. It is suggested that the question be "revisited" during the lesson.

For *incorrect responses*, the teacher should state the answer was incorrect and provide a correct response or call on another student. Probing or criticizing is rarely effective.

If the student *does not respond* to the question, the teacher should quickly determine if the student did not hear or understand the question, or whether the student did not know the answer.

In general, feedback should be immediate, overt, positive, and corrective to be most effective for the student responding and the other students in the classroom.

In a related area, feedback on written work should be as immediate as possible. Providing sufficient guided practice prior to assigning independent written work increases the likelihood that students are practicing at a high level of success. Many teachers use a strategy of checking short segments of work as it is completed. When students practice incorrect responses, their mastery of skills is delayed and some skills may have to be retaught.

For more information on providing feedback, consult the following sources:

Fuchs, L. S. Fuchs, D., Hamlett, C. L., & Whinnery, K. (1991). Effects of goal line feedback on level, slope, and stability of performance within curriculum-based measurement. *Learning Disabilities Research and Practice, 6*, 66-74.

Lenz, B. K., Schumaker, J. B., Deshler, D. D., & Beals, V. L.. (1984). *Learning strategies curriculum: The word identification strategy*. Lawrence, KS: The University of Kansas.

Mastropieri, M. A., & Scruggs, T. E. (1987). *Effective instruction for special education.* Boston: Little, Brown and Company.

Pany, D. & McCoy, K. M. (1988). Effects of corrective feedback on word accuracy and reading comprehension of readers with learning disabilities. *Journal of Learning Disabilities, 21,* 546-550.

Grouping Students for Instruction

In a 1989 survey of a random sample of special and regular education teachers across North Carolina (n = 459), regular education teachers reported being engaged in whole-group instruction 60% of the time while special education teachers reported spending only 19% of their instructional time with the entire class (Gurganus, 1990). Special education teachers in this study reported spending 41% of class time in small group instruction and 40% of time in one-to-one instruction. In general, both special and regular high school teachers spent more time in whole-group instruction than did elementary teachers.

While whole-group instruction may be less complex to manage, the varying needs of students in special education settings may require teachers to group students for part or all of their direct instruction. Grouping students does not eliminate differences in individual needs or preclude the teacher from meeting those needs within the small group structure.

One-on-one instruction has been criticized as being an inefficient use of classroom time, especially in a class where students need the maximum amount of direct involvement with the teacher. However, some students may have very specific needs that require this type of structure.

Anderson, Evertson and Brophy (1979) provide six guidelines for grouping students for reading: (1) groups are organized for sustained focus on content, (2) students are actively involved, (3) the lesson level allows a brisk pace and high degree of success for students, (4) students have many opportunities to read and respond, with immediate feedback, (5) skills are overlearned with new skills added gradually, and (6) individual performance is closely monitored.

Grouping students into smaller instructional groups can allow the teacher to increase the intensity of the lesson, increase frequency of student responses, and still allow for individual needs to be met within the group. However, grouping based strictly on student ability has a number of negative aspects including lack of achievement for the lowest students, undesirable peer structures, low teacher expectations, permanency of low group placement, inadequate instruction for the lowest groups, and ethical concerns

(Good & Brophy, 1987). In fact, research has demonstrated that ability grouping does not benefit the low ability, low achieving student (Goodman, 1990).

Some suggestions for structuring small group instruction include:

- student assignments to groups should be flexible
- group scheduling should be flexible
- grouping should lead to more effectively meeting the needs of students
- grouping structures should vary in other subject areas and activities
- groups requiring the most intensive intervention should be smaller and be allocated more time
- students not involved in the group should be engaged in meaningful, planned activities
- systems should be implemented to reduce transition time and off-task behaviors
- care should be taken to avoid group membership stigma

Other strategies for enhancing small group instruction include following up group instruction with individual instruction, engaging peer tutors, varying patterns of teacher-student interactions and response demands, developing cooperative learning activities, and supplementing instruction with computer assisted instruction. A discussion of peer tutoring and cooperative learning follows; computer assisted instruction with learning disabled students is addressed in Section Three.

For more information on grouping students for instruction, consult the following sources:

Anderson, L. M., Everston, C. M., & Brophy, J. E. (1979). An experimental analysis of effective teaching in first-grade reading groups. *Elementary School Journal, 79*, 193-223.

D'Zamko, M. E., & Raiser, L. (1986). A strategy for individualizing directed group instruction. *Teaching Exceptional Children, 18*, 190-196.

Good, T. L., & Brophy, J. E. (1987). *Looking in classrooms* (4th ed.). New York: Harper and Row.

Goodman, L. (1990). *Time and learning in the special education classroom.* Albany: State University of New York Press.

Rosenberg, M. S., O'Shea, L., & O'Shea, D. J. (1991). *Student teacher to master teacher: A handbook for preservice and beginning teachers of students with mild and moderate handicaps.* New York: Macmillan.

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Cooperative Learning

Cooperative learning is a small-group approach where students are the center of instructional decision-making. Each group of students is assigned a task or project on which they must work together; the performance of the entire group is evaluated. This type of instructional design encourages heterogeneous grouping, focus on student strengths, problem-solving activities, and cross-curricular skill development. Cooperative learning activities vary in terms of the degree of student interaction and the degree upon which the final grade is based on the total group effort.

Some examples of cooperative learning activities are construction of a sailboat, group report on conservation issues in the local area, science unit on electricity, team competition on math quizzes, and reading comprehension and vocabulary development from a unit on a literary selection. Many of these activities yield a tangible group product.

Cooperative learning is not an approach where the teacher assigns a group an activity and stands back to observe. Very important for success and student achievement are careful selection of group members that will balance in skill levels and leadership styles, careful statement of expectations for the group procedures and outcome or product, skillful monitoring of group progress including serving as a advisor and resource to the group, and explicit information on how grading is tied to individual or group efforts. As this is a student-centered approach, students should play a major role in defining the activities, establishing working procedures, and designing evaluation procedures.

Advocates of cooperative learning point to increases in student achievement, social skills, student motivation, engagement time, and student responsibility for learning. Those who caution its use warn about overemphasis on competition and the danger that some students may not actually work on skills where they have deficits.

For more information on cooperative learning, consult the following sources:

Goodman, L. (1990). *Time and learning in the special education classroom.* Albany: State University of New York Press.

Johnson, L. J., & Pugach, M. C. (1991). Peer collaboration: Accommodating students with mild learning and behavior problems. *Exceptional Children, 57*, 454-461.

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Madden, N. A., & Slavin, R. E. (1983). Effects of cooperative learning on the social acceptance of mainstreamed academically handicapped students. *Journal of Special Education, 17*, 171-182.

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Sharan, S. (1980). Cooperative learning in small groups: Recent methods and effects on achievement, attitudes, and ethnic relations. *Review of Educational Research, 50*, 241-271.

Slavin, R. E. (1983). *Cooperative learning.* New York: Longman.

Tateyama-Sniezek, K. M. (1990). Cooperative learning: Does it improve the academic achievement of students with handicaps? *Exceptional Children, 56*, 426-437.

Wilcox, J., Sbardellati, E., & Nevin, A. (1987). Cooperative learning groups aid integration. *Teaching Exceptional Children, 20*, 61-63.

Peer Tutoring

Peer tutoring involves one student assisting another in the acquisition or reinforcement of specific skills. Students may be of the same or different ages and students with learning disabilities may be the tutor or the tutee. Using peer tutors to supplement direct instruction by the teacher can be time- and cost-effective. By being actively engaged in learning (with another student) rather than working alone, students can be more involved with the material and achieve more. The tutor should also receive direct social, emotional, or academic benefits from the arrangement.

Peer tutoring programs can be grossly misused or misunderstood. It is important that the benefits for both students be maintained and documented. Tutors require training in how to assist the tutees. Instruction and student interaction should be closely monitored. It is also important that parents and school administrators understand the benefits and procedures of the program.

For more information on peer tutoring, consult the following sources:

Beirne-Smith, M. (1991). Peer tutoring in arithmetic for children with learning disabilities. *Exceptional Children, 57*, 330-337.

Campbell, B. J., Brady, M. P., & Linehan, S. (1991). Effects of peer-mediated instruction on the acquisition and generalization of written capitalization skills. *Journal of Learning Disabilities, 24*, 6-15.

Eiserman, W. D. (1988). Three types of peer tutoring: Effects on the attitudes of students with learning disabilities and their regular class peers. *Journal of Learning Disabilities, 21*, 249-252.

Goodman, L. (1990). *Time and learning in the special education classroom.* Albany: State University of New York Press.

Maheady, L., Sacca, M. K., & Harper, G. F. (1988). Classwide peer tutoring with mildly handicapped high school students. *Exceptional Children, 55*, 52-59.

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Kavale, K. A. (1990). Effectiveness of differential programming in serving handicapped students. In M. C. Wang, M. C. Reynolds, & H. J. Walberg (Eds.), *Special education: Research and practice: Synthesis of findings* (pp. 35-56). Oxford: Pergamon Press.

2.2 Curriculum Decisions

In identifying students as learning disabled and requiring special education, the administrative placement committee is in effect requiring "specially designed instruction which meets the unique needs of an exceptional child" (P. L. 94-142). In order for learning disabled students to be successful in school, instruction must address the differences these learners bring to the instructional context. The instructional context includes the teacher, the learner, and the content being taught (Kameenui & Simmons, 1990). The complexity of this context is apparent when one considers all the variables involved with each of the three dimensions. This section will focus on the content or curricular dimension. The next section will examine the variety of program structures that can facilitate various curricular approaches.

The reference point for instructional decisions is the curriculum for regular students. Achievement (or lack of achievement) in the regular curriculum has been the basis for identification and placement of the learning disabled student. To what degree and in what aspects the regular curriculum must be modified are key considerations for

the IEP committee and the learning disabilities teacher. Some questions which may guide these decisions are:

In what academic content areas did the student demonstrate significant problems?

What were the nature of these academic problems?

How effective were the prereferral interventions?

What are the specific academic strengths and weaknesses of the student?

What is the specific present level of performance of this student in each academic area?

What nonacademic areas may be having an impact on academic performance (social skills, behavior, organization, self-direction, attention, etc.)?

How much intervention is needed to bring the student within expected levels of academic achievement?

What specific instructional approaches are needed to increase targeted skills?

Elementary Curriculum Planning

At the elementary level, the curricular focus is on developing basic skills so that future learning in content areas can be successful. These basic skill areas include listening, reading, writing, computing, problem-solving, social awareness, and school adjustment. Areas of curricular focus for learning disabled students at the elementary level are usually basic skills, social-behavioral skills, and instruction in content areas.

The goal of *basic skill instruction* is to bring the skills of the learning disabled student up to a level that will enable the student to apply these skills in other contexts and to join his or her peers in the regular education setting for instruction. Intervention can take place in the regular classroom, in a resource or pull-out model, or in a separate setting. Important features of successful basic skills programs are identification of specific skill deficits, intensive intervention strategies, and close and frequent monitoring of progress. Skills must also be taught in a way that the student is able to generalize their use to other settings. The IEP committee should assign teachers responsibility for specific deficit areas. Will the special education program supplant (replace) regular classroom instruction or support and add to that instruction? How will the reinforcement and generalization of skills be coordinated between programs? What modifications to regular classroom instruction are required?

Social-behavioral skills deficits may have an impact on the learning disabled student's academic achievement. Questions similar to those outlined above must be addressed by the IEP committee. What are the specific social or behavioral deficits? Is direct instruction in these areas required? Who will provide the instruction and in

what context? How will these new skills be generalized to the regular school setting? Social skills instruction is discussed in more detail in Section Three.

Instruction in content areas is a concern for teachers in self-contained settings (elementary or secondary) where they may be responsible for student achievement in areas such as social studies, science, health, physical education, and arts. The goals and objectives of the regular curriculum should guide instructional decisions for these areas. Frequently these content areas receive less attention due to the increased time requirements for basic skill and social-behavioral instruction. This omission often leads to new deficit areas for the learning disabled student. One strategy for including these content areas in the curriculum and spending more time on basic skills is to plan integrated, cross-curricular units of instruction.

An example of an integrated unit would be to study baseball. The unit could include computing baseball statistics, reading the sports page, reading about famous players, reading literary selections with a baseball theme, tracing the historical development of the game, learning about the social rules of the game, writing letters to current players, drawing or sculpting baseball scenes, studying songs played at baseball games, learning about sports safety, and actually playing baseball. Other ideas for integrated units are local historical places, the Olympics, planning a trip, inventions that changed our world, and topics from current events. Teachers should be aware of specific skill needs of students and ensure they have opportunities to develop those skills within the unit of study. The integrated unit approach takes more planning but it can enhance student motivation for learning. Swicegood and Parsons (1991) offer a four-step process for the development of thematic units: 1) thinking about and selecting topics, 2) constructing the unit, 3) checking for the inclusion of important experiences, and 4) creating daily lesson plans.

Secondary Curriculum Planning

Curricular concerns for secondary learning disabled students are different than those at the elementary level. Student achievement in basic skills tends to plateau around age 14 or 15 (Warner, Schumaker, Alley, & Deshler, 1980). If appropriate interventions have been attempted during the elementary years and there are still significant academic deficits, the IEP committee must decide whether to pursue an academic or functional course of study. Decisions must be made about probable post-school goals and the academic preparation needed to achieve those goals.

Secondary learning disabled students have been described as being passive learners having continued deficits in basic skill and social areas and may have increasing

problems with poor motivation, inability to keep up with regular content area classes, low self-esteem, and poor planning and organization skills (Zigmond, Sansone, Miller, Donahoe, & Kohnke, 1986). More diverse curricular options are needed at the secondary level. Some curricular models include parallel, functional or life skills, study skills, remedial, tutorial, compensatory, strategy instruction, and vocational training. These models can be characterized by the degree to which the curriculum is different than the regular high school curriculum and the setting in which instruction is provided (Zigmond, Sansone, Miller, Donahoe, & Kohnke, 1986).

The focus of *academic remediation* is on improving basic skills. Almost one-half of secondary programs for learning disabilities had this focus (Deshler, Lowrey, & Alley, 1979). Concerns for implementing a secondary program with a remedial focus are the misuse of materials developed for elementary students, increased student frustration with academic goals, limited time during the school day, and lack of significant progress in basic skills with remedial methods. Zigmond (1988) studied how class time was being spent in learning disabled resource rooms and found that less than 40% of each class period was devoted to instructional interactions with the teacher. Teachers spent 28% of the time telling students what to do (not instruction) and 23% of time not interacting with students at all. If a basic skills approach is to be effective at the secondary level, instruction must be intensive and skills should be functional. Zigmond (1990, pp. 7-9) provides an excellent overview of the appropriate focus of a secondary basic skills program in the areas of reading, vocabulary development, writing, and math.

Study skills programs offer learning disabled students a very specialized curriculum to enhance success in regular classes. These programs can be offered in conjunction with others such as learning strategies, remediation, tutorial, or compensatory. Study skills curricula focus on school survival skills (including teacher-pleasing behaviors), strategies for completing assignments, attending in class, notetaking, organizing materials, studying for tests, reading textbooks for specific information, listening skills, time management, and behavior control. Direct instruction in generalization of study skills to actual content areas is recommended.

The goal of a *tutorial program* is to provide supplemental instruction so that the learning disabled student can be successful in regular classroom courses. The textbooks and materials are those of the regular classroom; the special education teacher assists students in understanding and completing assignments and studying for tests. Although successful in the short-term, tutorial programs foster dependence on the special education teacher and do not provide students skills that will generalize to other courses.

Compensatory programs seek alternative strategies for the student to accomplish academic goals. The student's learning environment is modified so that he or she can be more successful in regular classes. Examples of modifications include outlined or highlighted textbooks, alternative tests, rearranged class schedules, taped or scribed class notes, and wordprocessing of written assignments. This model depends on the cooperation of regular education teachers and similar accommodations in future coursework.

The *parallel curriculum model* provides the same academic objectives as regular secondary courses but the instruction is modified and provided in the special education setting (Hartwell, Wiseman, & Van Reusen, 1979). Instructional presentation differs from the regular classroom in that it makes heavy use of nonprint presentation of course content and uses alternatives to paper-and-pencil tests for evaluation. Concerns with this instructional model are that they frequently revert to methods similar to the regular classroom, special education teachers may not be qualified to teach secondary content areas, and instructional goals may be too academic rather than functional.

Functional curriculum models teach skills learning disabled students will need to function as successful adults. According to a survey of parents of learning disabled students, only 46% of students had adequate functional skills such as keeping a checking account or planning meals. The same survey found that only 19% of learning disabled students enroll in post-secondary education. Because the term "functional" is often associated with more severely involved students, the concept is often misunderstood. Functionality is a way of thinking about curricular content; it is a concept of learning through authentic activities. Weaver, Landers, and Adams (1991) offer the following steps for planning functional lessons geared to any level of student: 1) decide what the student needs to learn, 2) determine the functional value or how the skill will actually be used, and 3) decide the best way to teach the skill in the most authentic manner.

Areas of study for a functional curriculum include consumer information, job-seeking skills, banking and money skills, personal-social skills, community access skills, domestic skills, and health information. Examples of functional curricula are The Adult Performance Level curriculum developed by the Adult Performance Level Adaptation and Modification Project, and the Life Centered Career Education curriculum developed by Don Brolin and available through the Council for Exceptional Children. Some schools have successfully developed a functional (or applied) curriculum within secondary subject areas such as social studies, English, math, and science in order for students to meet graduation requirements. Possible shortcomings of functional

curriculum approaches are that they may tend to isolate learning disabled students in self-contained classes and ignore their academic strengths and potential.

A curricular model that was developed in response to concern about the shortcomings of remedial, tutorial, compensatory, functional, and parallel approaches for secondary learning disabled students is the learning strategies approach or *Strategies Intervention Model* (Schumaker, Deshler, & Ellis, 1986). The model was developed to teach students how to learn rather than to teach specific content. Learning strategies are techniques, principles, or rules that enable a student to learn, solve problems, and complete tasks independently. Underlying rationale for the model are 1) the ability to apply metacognitive skills is related to the student's maturity, 2) students who "learn how to learn" will be at an advantage for learning new skills, and 3) students must accept responsibility for their learning and progress (Deshler & Schumaker, 1986). The Learning Strategies Curriculum is a set of instructional packets needed by the teacher to train students in the use of learning strategies. Some examples of strategies are The Word Identification Strategy, The Paraphrasing Strategy, The Sentence Writing Strategy, and The FIRST-letter Mnemonics Strategy.

Strategy instruction follows a specific instructional format: pre-testing and commitment to learn the strategy, strategy description, modeling, verbal rehearsal, controlled practice, practice to mastery, and post-testing. Generalization is also targeted by developing awareness of appropriate contexts, practice in various contexts, and periodic probes. (For more information on strategy training for teachers, contact the Division of Exceptional Children's Services.)

Finally, *vocational education and training* is especially important for learning disabled students who are non college-bound. Special educators should be aware of the full range of regular vocational programs offered including exploratory, skill training, and work experience courses. They should also be aware that merely enrolling students in courses does not necessarily give students a post-school advantage or encourage students to stay in school (Zigmond & Thornton, 1985; Thornton, 1987; Thornton & Zigmond, 1988). The most effective vocational model for non college-bound learning disabled students begins with extensive job exploration including job "try-outs" and moves to increasingly intense skill-specific vocational training coordinated with basic skill coursework that reinforces vocational skills and transition planning. As with regular academic classes, vocational classes may require modifications in instructional presentation, evaluation, and written materials.

Another promising vocational program is North Carolina's Tech Prep program. It is a course of study designed to meet the need for high school students to have a more

technically oriented educational background. Students take specific academic and vocational courses in high school to prepare for programs in engineering, business, and health/human services at two-year technical and community colleges. (More information is available from the North Carolina Tech Prep Project Director, Box 1189, Hamlet, NC 28345, or local vocational education directors.)

In a 1988 study of exploratory and preparatory vocational education classes in the Chicago area, Okolo found that exploratory classes resembled high school academic classes in the role of the teacher and grouping of students while preparatory vocational classes provided more hands-on experiences, small group or one-on-one instruction, and high levels of on-task behaviors. She also found that vocational teachers rarely provided instruction in related basic skills, employability skills, or human relations skills.

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Mercer, C. D., & Mercer, A. R. (1989). *Teaching students with learning problems* (3rd ed.) Columbus, OH: Merrill.

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2.3 Instructional Program Models

The best instructional practices will not be effective without an administrative structure that recognizes the goals of the program and provides needed support. Effectiveness of various strategies discussed in the previous section depends on many variables including student-teacher ratios, resources and materials available, teacher training, cooperation between regular education and special education, and student class schedules.

The relationship of the special education program to the overall school program should be articulated. Prereferral intervention takes place in a regular education context. Most students identified as learning disabled are served primarily by regular education. Consultative models depend on close collaboration between regular education and special education teachers.

Program models for serving learning disabled students are different at the elementary and secondary levels, due primarily to the differences in regular education programs, differences in individual achievement among learning disabled students, and differing post-school priorities for secondary students.

Administrative decisions regarding program goals, personnel assignments, student assignments, and budget allotments must balance efficiency with the rights of learning disabled students to receive an appropriate education. The administrator's concern with developing programs in which to educate the majority of students must balance with the learning disabled student's right to have a program designed to meet his or her needs.

This section will examine instructional program models which can meet learning disabled student needs in a effective yet efficient manner. The discussion covers options for pull-out or resource programs, consultation or regular education-based models, and special models for secondary programs.

Pull-out Direct Service

The most common model of providing individualized educational intervention is the pull-out or resource model used by special education at all levels, remedial programs such as Chapter I, and at-risk or other target group programs. The resource model became prevalent because it was relatively easy to attach to the regular education program, it was considered an intensive model with services provided by a specialist, and it allowed students to be mainstreamed for the majority of the school day.

After two decades of implementation, alternatives to or revisions in this model are sought. Student progress is much less than was anticipated (Epps & Tindall, 1987; Idol-Maestas, 1983; Leinhardt, Bickel, & Pallay, 1982). The economic feasibility of operating several categorical programs in a given school is questioned--especially when instruction provided is not really unique. Criteria for determining which students to pull out and for how long are not clear and vary considerably from school to school (Ysseldyke & Algozzine, 1983). The actual amount of resource class time spent in teacher-directed instruction is relatively low--often less than 40% of the class period--and frequently less than students would receive in the regular education classroom (Zigmond, 1988; Haynes & Jenkins, 1984).

Intensive Intervention. For students requiring more time and more closely monitored instruction in mastering basic skills, intensive intervention may be appropriate in a resource setting. Intensive intervention program characteristics include:

- high level of teacher-directed instruction
- immediate feedback on all oral and written responses
- frequent (daily) progress checks
- careful diagnosis of student skill strengths and weaknesses
- instruction that fosters skill generalization
- frequent performance review checks
- documented progress at a greater rate than could be achieved in a self-contained class or a regular class

- goal of improving basic skills to a level where the student can function successfully in the regular curriculum

An intensive intervention program in a resource setting lends itself to the following practices discussed in Section 2.1: mastery learning, direct instruction, curriculum-based assessment, precision teaching, levels of learning model, feedback, and grouping students for instruction.

Parallel Curriculum. A parallel curriculum, as discussed in Section 2.2, provides the same academic objectives as regular education courses but the instruction is modified and provided in a special education setting. Characteristics are:

- content area specific (e.g., science)
- same scope and sequence as regular education course
- alternative delivery of instruction (e.g., film, demonstration)
- alternative testing strategies
- may not be as in-depth as the regular education course
- alternative text and written materials
- offers course credit for graduation

A parallel curriculum option for a pull-out special education setting may be appropriate in the following situations:

- regular education teachers are resistant to meeting needs of learning disabled students
- special education teachers are qualified to teach the content area
- regular education texts are inappropriate and not modifiable
- regular education courses result in high failure or drop-out rates among learning disabled students

The parallel curriculum model may accommodate any of the effective practices discussed in Section 2.1.

Special Curriculum. Learning disabled students may have instructional needs not addressed by the regular education curriculum. The pull-out model offers the service delivery structure needed to provide these special curricula. Special instructional areas include:

- learning strategies
- study skills
- school survival skills
- social-behavioral skills

Characteristics of the special curriculum resource model are:

- skills are not taught in the regular education curriculum
- skills are needed by the student to be successful in the regular curriculum
- emphasis is on generalization of skills to other contexts
- special education teachers have been trained in the special area

Collaborative Consultation or Integrated Models

Collaborative models of service delivery are instructional arrangements combining the expertise of the regular education content area teacher and the special education teacher to provide direct services within the regular education environment. The terminology for collaboration, consultation, and teaming is often mistakenly interchanged; each is described in the following sections. These models have gained increased attention in the past five years due to a number of factors: a wider range of program options is needed for mildly disabled students, students not identified as disabled need similar instructional interventions, traditional resource and self-contained models have not produced expected results, the "regular education initiative" at the federal level has encouraged more involvement and responsibility on the part of regular education for special education students, and some see the collaborative model as a more cost effective way of delivering services (Huefner, 1988; Phillips & McCullough, 1990; Will, 1986).

Other benefits of these models are a reduction in the stigma that is usually attached to pull-out programs, increased understanding across disciplines of regular education and special education, increased specialized skills in regular educators, a reduction in mislabeling nonhandicapped students, and benefits of improved instruction for regular education students (Huefner, 1988).

Cautions regarding the implementation of collaborative models include assignment of caseloads too heavy for the model to be effective, reversion to a tutorial model, requiring all learning disabled students to be served by the same model regardless of student needs, failure to adequately train personnel, lack of regular education support, and lack of joint funding structures (Huefner, 1988).

Consulting Teacher Model. Consulting teaching is a process for providing special education services in which special education teachers, regular education teachers, and other professionals collaborate to plan, implement, and evaluate instruction which is conducted in regular classroom settings (Idol, 1986).

Wiedmeyer and Lehman (1991) offer the following list of consulting teacher activities:

- collaborative teaching (planning, presenting, and evaluating instruction)
- monitoring students during class
- developing units of study in social skills, problem-solving, or study skills
- serving as a consultant to a specific class
- developing materials for regular education or special education students who have additional needs
- providing generalization opportunities and activities
- developing appropriate modifications for individual students
- working with small groups within the regular classroom when needed
- demonstrating special techniques or strategies

Consulting teaching models may differ in the amount of direct services the special education teacher provides students. Special skills of the consulting teacher are interpersonal communication, collaboration, problem solving, knowledge of the regular education curriculum, and familiarity with large group techniques and curriculum modification strategies (Huefner, 1988). In order to be effective, a collaborative consultation model should have a clear policy of being in the best interest of the students served, a joint funding structure, realistic caseloads, and trained and supportive teachers.

Team Teaching. A form of collaborative consultation, team teaching with regular education-special education pairs of teachers has the same benefits and cautions as the consulting teacher model. In this model, a regular education and a special education teacher are assigned a heterogeneous group of students and share the responsibility of planning, conducting, and evaluating instruction. Team teaching is particularly effective when the two teachers work well together and their instructional skills complement each other. Usually a content area specialist teams with a specialist in meeting individual student needs. An example would be a vocational educator and special education teacher team teaching a vocational skills course.

A caution with this model is creating an unmanageable class size or assigning an unusually high number of special education students to one class. Both teachers should have equal responsibility for instruction; neither is an assistant to the other. This model is more expensive than a consulting teacher model where a special education consultant can provide indirect services to several regular education teachers. However, teachers in a bona fide team teaching situation are exempt from the

requirements of using State exceptional children funds exclusively for services to children with special needs. "Bona fide team teaching is regular classroom instruction that involves a general education teacher and an exceptional child teacher who are jointly responsible for planning, instructing, and evaluating a given group of students at any instructional level or in a selected subject-matter area or combination of subject-matter areas" (*Procedures*, .1530, K, c).

Adaptive Learning Environments Model. The broadest and most multifaceted program providing specialized services in regular education is the Adaptive Learning Environments Model (Wang, 1980). The goal of this model is to provide effective school environments that maximize the outcomes of learning for all students. ALEM includes the following components:

- prescriptive learning (mastery learning) based on a basic skills curriculum
- exploratory learning
- classroom management procedures
- family involvement
- multi-age and team-teaching organization

The model requires a complete transformation of the regular education learning environment (Wang & Walberg, 1985).

Although the advocates of ALEM claim the ability to implement the program across different types of schools, the achievement of specific patterns of classroom behavior (e.g., high levels of on-task behavior, problem-solving, independent learning), and increased student achievement for both regular education and special education students, research to date has been inconclusive.

Secondary Models

In addition to the pull-out and collaborative models, the secondary school may need to provide a wider array of program options for learning disabled students. It should be noted that the present organization of the high school curriculum may add to the learning problems of learning disabled students, but that is the context in which students must learn.

Regular Curriculum with Support. Some learning disabled students can be successful in regular education classes with limited direct or indirect special education services. The services can be consultative or provided in a special course. Participation

in the regular curriculum is especially important for students who plan to attend college.

Zigmond (1990) recommends the following components of a regular curriculum:

1. Learning disabled students are assigned to mainstream classes for math, content areas, and electives required for graduation.
2. One special education teacher serves as a consulting teacher to regular education teachers.
3. Other special education teachers teach English or reading courses, a survival skills course for ninth graders, and a supervised study class (includes tutoring, study skills, and learning strategies) taken each year by learning disabled students. (In North Carolina, supervised study classes are also called curriculum assistance, academic study skills resource labs, study skills labs, etc.)
4. The school counselor provides transition planning services.
5. The ninth grade year academic load is lightened to increase the likelihood of success.

Functional Curriculum. As discussed in Section 2.2, the regular curriculum may not adequately prepare learning disabled students for the adult world. Because of increased academic requirements in regular education, many learning disabled students will need a greater number of special education courses.

Zigmond (1990) offers the following features of her "Model Two:"

1. All basic skills are taught by special education teachers and all address functional skills. These skills are linked to transition planning and vocational pursuits.
2. Required "content" subjects are taught by special education teachers. (While Zigmond outlines parallel courses, more functionally-oriented course goals should be considered in science, health, and social studies.)
3. Vocational education is provided in the mainstream and is coordinated with transition planning. Zigmond calls for at least two periods a day each year. The ninth grade year begins with extensive exploration and job try-out. Subsequent years are spent in specialized skill training and work study or work cooperatives on job sites. Transition planning is coordinated between vocational education and special education.
4. Ninth grade students take a course in school survival skills. Their schedule reflects a light academic load to ensure success.

Administrative issues to consider when planning secondary models include:

- graduation requirements
- numbers of learning disabled students and their probable post-school environments
- training of special education teachers
- training and attitudes of regular education teachers
- number of special education courses that can be offered each year
- training of school counselors to provide transition services
- procurement of appropriate textbooks and other materials
- possible consideration to five-year rather than four-year completion schedule

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Section Three:

Special Topics

SPECIAL TOPICS

This section presents information on special topics related to the education of learning disabled students. For each topic best practices, current research, implementation suggestions, and resources are provided. Where possible, lists and synthesized forms of information are given in an effort to make the material a useful reference for teachers of learning disabled students.

3.1 Practical Tips for Teachers

First Year Teachers (and Others Needing Renewed Energy)

Your first assignment as a teacher of learning disabled students? Consider the following list of "before school starts" activities:

- Get to know the principal and teachers, remember you are a part of the total school program.
- Get to know the school secretary, janitor, and other support staff (V.I.P.s).
- Read the school procedures manual and ask questions.
- Meet with the exceptional children program administrator or consultant and ask questions:
    - --What are local and State policies and procedures for special education?
    - --What is your specific assignment?
    - --Is there a budget for materials and supplies?
- Meet with the other special education teachers and find out what type of special education program the school offers. Ask questions:
    - --How are students scheduled?
    - --Where are the student folders?
    - --Is there a budget for materials and supplies?
    - --Where do you fit into the total special education program?
- Become acquainted with your teacher assistant if you have one. Establish lunch times and breaks and decide specific duties the assistant will perform.
- Read students' folders and IEPs. Note dates for IEP reviews and reevaluation dates on your calendar. Make sure all IEPs are current and complete.
- Work on scheduling students according to their IEPs, regular classroom schedules, and special schedules such as lunch and P. E.

- Select topics for broad curriculum units. This will assist in grouping students for instruction and identify needed materials.
- Collect various curriculum-based measures in reading, math, and other areas targeted by the IEPs.
- Set up record keeping systems that will work for you.
- Examine your classroom or work area.
- Set up bulletin boards, book shelves, and learning centers.
- Plan classroom management procedures.
- Plan the first week of activities.

During the first two weeks your activities will depend on your assignment. If you have a self-contained class, your students may report to your class the first day. A resource teacher may use the first week or two to conduct student evaluation and schedule pull-out times with regular teachers. (A consulting teacher is most likely not a first-year teacher.)

Suggestions for the first two weeks of class:

- Plan the first day of class very carefully. You will be introducing your students to the class and setting the tone for class procedures.
  --have more than enough activities planned....over plan!
  --discuss class rules and procedures, be prepared to repeat daily
  --vary activities
  --set a positive tone toward learning and school behavior
  --do something the students can take home
  --plan a game or activity to help students get acquainted
- Conduct informal evaluations in areas targeted by the students' IEPs.
- Review previous skills with students. This helps them feel successful and provides the basis for adding new skills.
- Send home a letter to parents informing them of class policies and procedures. Your letter could include suggestions for things they can do at home with students, information on upcoming units of study, when to expect progress reports, how to contact you, and when you'll be having parent conferences.

Physical Environment

Some suggestions for setting up your classroom include:

- Plan the classroom layout on graph paper--it's easier to move pieces of paper than furniture.
- If possible, design areas for whole group activities, small group activities, and individual work.
- Request a lockable filing cabinet for student confidential records.
- Set up computers away from chalkboards and windows.
- Check the placement of wall outlets.
- Ensure adequate seating for the largest number of students in any class. If students range in age, consider the appropriate sizes of desks and chairs.
- Position small group tables with students facing the teacher and the teacher facing the rest of the room.
- Use bookcases, filing cabinets, and moveable backboards as dividers.
- Have a box of spare pencils.
- Use tote trays for markers, crayons, scissors, and other supplies.
- Remember left-handed students when selecting desks and supplies (e.g., scissors).
- Explain and reiterate to students where things are located and how they should be used and returned.
- Consider using bulletin boards as part of learning centers, places to display student work, or places for calendars and school notices.
- Use clotheslines, cloth banners, or old chart stands for display if bulletin boards are scarce.

Record Management

Records include IEPs, student progress records, school attendance records, and documentation of parent contacts. Planning ahead for the types of recordkeeping needed and refining systems for efficiency will pay off in time savings during the year.

Many teachers transfer the objectives from students' IEPs to individual charts. These charts can be maintained in student folders along with work samples. As each objective is met, the date should be documented. Charts can also assist with systematic review. Minner, Minner, and Lepich (1990) describe a system using data maintenance sheets where one recording sheet per objective per student is used. They recommend using a five-shelf unit to organize data sheets by the day of the week data is to be collected. Others recommend teaching children self-recording techniques (Lovitt,

1984) and using computer programs for maintaining student data (Fuchs, Deno, & Mirkin, 1983).

Some methods for organizing and keeping track of student written work are:

- Student folders where students place completed work each period. A checklist prescribing the students' schedules of activities for the day can also be included in the folder.
- Weekly folders where all work completed and returned during the week is filed. On Fridays or Mondays, work is stapled to a parent information sheet and sent home with checklists (behavior or work habits) and personal notes. The folder can be signed and returned each week.
- Subject area spiral notebooks are a good way of keeping student work organized. For subjects such as math or written expression, rules, examples, and other notes can be written in the notebook. These are followed by guided practice and independent practice which is checked right in the notebook.
- The learning disabilities teacher may need to assist students attending regular classes in setting up a notebook system which will help them organize class notes and remember assignments.
- Students can chart their own progress on graph paper from curriculum-based assessment measures or graded work. Some examples would be the number of words read per minute, number of words spelled correctly, percentage correct on a math test. Incorrect answers should not be charted.
- Samples of student work for the areas targeted on the IEP should be collected throughout the school year as evidence of student progress. For reading skills, audiotapes can be made of students reading at intervals during the year (one cassette per student).
- Use index cards or a notebook for anecdotal records and comments.

It is prudent to set up a parent contact sheet in each student's folder. File notes sent by parents and document meetings and phone calls with the date, purpose of contact, and outcome.

Special education paperwork can seem overwhelming, but it is essential to keep records on student progress and contacts with parents. A system set up and maintained consistently will pay off if problems arise or when IEPs need updating. Students are more motivated learners if they are able to see some evidence of their own progress.

Organizing Instruction

There are many excellent textbooks on planning for instruction--a few are mentioned in the reference section. The purpose of this section is to provide some practical tips and checklists of ideas.

Consider the following types of instructional planning:

- individual student needs and specific strategies to meet those needs
- units of instruction (e.g., addition of fractions, letter writing)
- planning for small groups of students
- planning learning activities for students when they're not in a group with the teacher
- planning daily lessons (including materials, activities, practice, and evaluation strategies)
- planning for generalization of skills to other settings
- building in periodic review
- planning assessment strategies and time tables
- selecting appropriate technologies (methods for getting the material across to students), try to accompany any oral presentation with some type of visual reference

Probably the most common mistakes teachers make when planning instruction for learning disabled students are gearing the material too low for some students (students have already mastered the skills) or gearing it too high--at a frustration level. Students who are bored or frustrated will soon lose interest in learning and may become behavior problems. Another serious mistake which leads to student boredom is slipping into a rut of the same types of lessons, the same assignments, and the same homework. Learning disabled students need an element of structure in their classroom activities--but not to the extent that they lose interest in learning.

Other ideas for planning instruction are:

- Consult regular education teachers for ideas on content area instruction.
- Obtain a scope and sequence for each subject area.
- Skim regular education and special education journals for instructional ideas.
- Consider an efficient filing system for materials related to each instructional unit.
- Use an alternative to the regular planning book--type in activities, periods, or student names that appear every day. Xerox and write in daily plans. Use one sheet for mornings and one for afternoons and keep in a three-ring notebook.

- Keep a row of five boxes on a top shelf labeled with the days of the week. As you make plans for the next week and gather materials, file them in the appropriate boxes.
- Remember the types of instruction that are going on in the regular classroom and attempt to use alternative techniques.
- Consider alternatives to the dreaded worksheet.
- Be creative when making homework assignments.
- Remember the areas of learning strategies, school survival skills, and social skills when planning instruction.
- For students who are difficult to motivate, select high interest materials and allow students to help select and plan units of study.
- Plan ways to speed transition time between activities.
- Plan lessons that are well structured and make the most of class time.
- Plan daily activities so that you are actively involved in instruction with students for the maximum amount of time.
- Prepare a folder for substitute teachers. Include daily schedule, school rules and procedures, seating charts, the names of helpful students, a feedback sheet, and alternative activities if those in your lesson plans are too complex. Update each quarter or each time it is used.

Classroom Management

New learning disabilities teachers are probably most anxious about classroom behavior management. Even veteran teachers have days when the best lessons are sabotaged by student behavior. Most experts agree that prevention is the best tactic for managing student behavior.

Some suggestions gleaned from the literature on classroom management include:

- establish classroom procedures early
- demonstrate respect for students
- communicate your positive expectations frequently
- display classroom "withitness"--be able to monitor all classroom activities
- prevent lag time and the appearance of being unprepared
- structure the environment to increase appropriate behaviors
- keep the classroom orderly
- make classroom rules specific and provide a rationale for each rule

- develop consequences for rule violations which are logical, simple, and not degrading for the student
- be consistent in managing student behavior
- if possible, join school-wide management systems
- attempt the simplest, most natural, and least intrusive behavior management system before taking on a complex contingency system

Collaboration with Other Teachers

The importance of developing a rapport with other teachers cannot be overstated. All learning disabled teachers will have students attending regular classes for some part of the school day. Successful collaboration is important because:

- regular education teachers generally have responsibilities outlined in the IEP
- students should be taught skills consistently
- if skills are to generalize, they must be practiced in other contexts
- behavior management systems should be synchronized
- contact with parents should be shared and of a unified nature

Ways to enhance communication and collaboration with regular teachers include:

- share ideas and resources on units you know they are teaching
- request a room in the mainstream of the school
- share evidence of student progress
- if you need feedback on student work or behavior from regular teachers, develop a brief checklist to keep their time with extra paperwork at a minimum--and make the students responsible for having the checklist marked and initialed.
- discuss unit plans ahead of time with teachers
- seek their assistance in problem solving sessions
- serve on school committees and perform regular school duties
- work gradually toward increasing general understanding of your program--seek to understand the programs of others
- be creative and try joint lessons, field trips, or projects with willing teachers
- establish a peer tutoring program where you not only use regular education peers in your classroom but provide peers for students in lower grade levels.

Parents

The relationship between the school and parents of learning disabled students is critical. Parents who are supportive of instructional programs can reinforce skills and concepts at home and assist their children in making greater progress toward educational goals. Some tips for working successfully with parents include:

- Remember the intent of P. L. 94-142 and due process procedures under the law--to protect the rights of children and their families which had been neglected in the past.
- Be sensitive to cultural and socio-economic differences among students.
- Set up a system for keeping parents informed of their children's progress.
- Contact parents frequently--for good news as well as for early prevention of problems.
- Seek parent volunteers for reading to students, working with small groups, accompanying students on field trips, speaking about occupations, and assisting the class with projects. Parents will gain a better understanding of your program if they are involved.
- Document all parent contacts.
- At the end of phone calls or parent conferences, summarize the conclusions to ensure understanding.
- Be candid with parents about the meaning of identification as learning disabled and various service options.
- Discuss post-school plans with parents beginning at least in the middle grades.
- Be constantly aware of confidentiality issues. Parents may confide personal information to you. Guard against discussing information about other students in your classroom with a parent.

Paraprofessionals

Although not as many teachers of learning disabled students work with paraprofessionals as do teachers of more severely handicapped students, teachers in self-contained or resource settings may have paraprofessional services part- or full-time. Very few teacher training programs include material on working efficiently with paraprofessionals (Blalock, 1991).

Some benefits of using paraprofessionals include:

- cost effectiveness
- lessens the adult/student ratio
- enables more individualized and small group activities

- increases teacher time for direct instruction
- provides relief from nonprofessional tasks
- bridges community or cultural gaps

Potential problems in working with paraprofessionals:

- lack of job description
- arbitrary or inequitable assignment of duties
- use as substitute teacher
- scarcity of time for joint planning
- situation of a new teacher and seasoned paraprofessional
- lack of understanding of supervisory role
- lack of training
- poor basic skills

Suggestions for an effective team approach:

- capitalize on the paraprofessional's strengths
- treat paraprofessional with respect
- provide compliments for work well done
- model high performance standards
- maintain consistency
- develop a communication system that will allow for two-way feedback
- schedule daily or weekly planning sessions
- solicit input on making classroom decisions
- make the job description clear
- develop an evaluation system with assistance from the principal

Activities and tasks paraprofessionals can perform:

- provide individual tutoring or drill to students
- circulate around the room assisting students as needed
- prepare classroom materials
- correct student written assignments
- handle attendance, lunch money, student notes, and other records
- assist students moving to or from other classrooms
- file parent notes or classroom materials
- keep inventory of classroom materials
- assist the teacher in monitoring student behavior
- supervise students in community settings for teacher-planned activities
- accompany students to regular classes to provide individual assistance

Activities paraprofessionals should not perform:

- substitute for teacher in case of absence
- provide instruction that has not been planned by the teacher
- make parent contacts
- administer disciplinary punishments

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3.2 The LD Student in the Regular Classroom

Most learning disabled students in North Carolina's schools spend at least part of their day in regular classrooms; 92% are assigned to regular classrooms most of the day. Many of these students need special instructional adaptations to be successful in the regular class setting. These adaptations are discussed during the IEP meeting when placement recommendations are made. If required in the regular class, adaptations are included in the IEP in a special section for documenting appropriate modifications (III, C). It should be remembered that the IEP is developed and implemented by a team--often including regular teachers.

The collaboration between special education teachers and regular education teachers to provide an effective instructional program for an LD student requires special skills in communication, problem solving, and instructional modification--and appropriate attitudes. Special education teachers cannot assume that regular education teachers will have the skills needed to serve the student; regular education teachers cannot assume that the student is totally prepared for full participation in mainstream activities. Both must be willing to work for the best interest of the student.

Adaptations and Modifications

Special education consulting teachers and regular education teachers serving LD students should consider possible adaptations in lesson presentation, assessment, and instructional materials. The type of adaptation needed depends on the specific learning needs of each student. Many are appropriate for or would benefit all class members.

Some lesson presentation adaptations include:

- give directions orally and in writing
- give only one or two oral directions at a time
- keep written directions to the student's reading level
- underline or circle important words in written directions
- provide additional examples and non-examples
- provide additional guided practice, to a higher level of mastery
- consider shorter sessions or blocks of direct instruction
- shorten sets of written assignments
- select alternative assignments that cover the same material
- vary grouping patterns of students
- allow more time for assignments
- provide advance organizers for lessons

- give immediate feedback on oral and written responses
- actively involve the student in the learning experience
- vary the type of lesson presentation (away from lecture)
- use motivators to spark student interest
- provide a structured framework for lessons
- introduce new vocabulary before reading passages
- summarize key ideas
- encourage front-of-class seating
- provide outlines or diagrams for notetaking
- allow lessons to be taped
- allow another student to take notes with carbon or NCR paper
- assign a peer helper for specific tasks such as keeping on the correct page

Assessment adaptations include:

- untimed tests
- test reader
- alternative test type (essay instead of objective)
- separate room for testing
- oral, taped, or typed tests
- credit for the process as well as the solution to math problems
- oral tests
- scribe to record test responses
- alternative methods of demonstrating mastery (e.g., instead of writing an essay on how to change a tire, have the student do it or explain the steps orally)
- tape recorded oral presentations
- use of tables, calculators, and reference books
- avoidance of trick questions or complex sentences
- carefully structured tests, grouping items of similar concept and organizing items from simplest to more difficult
- lined paper for written responses
- a "write-on-the-test" option if using bubble sheets
- test-taking strategies taught for each type of test item used

Possible modifications in instructional materials include:

- taped texts
  --prepared by the teacher or volunteer

--obtained from the North Carolina Textbook Warehouse

- microcomputer adaptations of textbooks
- text and other written materials rewritten at lower reading level
- alternative or abbreviated reading assignments
- other media to present course content
- peer or volunteer readers
- study guides for text chapters including an outline, vocabulary, and summary points

Specific characteristics of the LD student should be considered when making decisions about regular class modifications. Wholesale use of modifications promotes overdependence on the part of students and overburdens regular education teachers. Some examples of matching student characteristics to modifications are:

Characteristic	Modification/Adaptation
poor reader	taped text tests read orally alternative text
impulsive	advance organizers for lessons outline for notetaking work divided into smaller segments and checked as completed read written work to peer before turning in
short attention span	close seating divide lessons and assignments into segments active, hands-on involvement frequent questions requiring oral responses
does not follow directions	provide written and oral directions give only one or two at time ask student to repeat directions check first 2 or 3 answers

Commonly used adaptations to tests and assignments may also be appropriate for the state testing program, but modifications should be documented on the IEP.

Preparing Students

Both learning disabled and regular students need to be prepared for the mainstreaming of learning disabled students. Regular students may label an LD student who has been attending pull-out classes as "dumb." Students may notice differences in LD students' oral reading, personal organization, attention in class, or social skills. Regular teachers should be a model for students by conveying positive, accepting attitudes toward LD students. The regular teacher may need to emphasize LD students' strengths and strive to keep weaknesses not so obvious. If regular students question special modifications provided an LD student, the teacher should be open and explain the reason the modification is being used. Providing students opportunities to collaborate on assignments can help promote social acceptance.

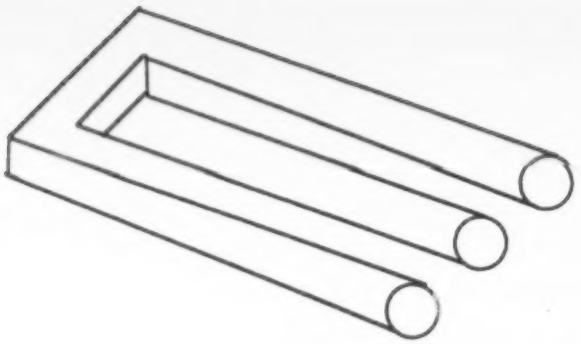
The LD student's greatest challenge for success in a regular classroom may be social acceptance rather than academic deficits. Specific social skills should be targeted for development. These are discussed more thoroughly in Section 3.5.

Other preparations for entering the regular classroom include:

- becoming familiar with rules and procedures
- learning strategies for following oral and written directions
- increasing on-task segments of time
- learning teacher-pleasing behaviors
- developing strategies for notetaking, recording assignments, and organizing materials
- discussing the new setting with parents

Baker and Zigmond (1990) studied the typical regular classroom in an in-depth case study. They found that regular teachers provided undifferentiated, large-group instruction and generally followed the teacher's manuals of the adopted texts. Teachers were extremely committed to their instructional routines which included no differentiated classroom assignments, no deviation from textbook sequences, very little class time spent actually teaching, quiet and controlled classrooms with students working on worksheets and workbooks, and very little interactive instruction.

If learning disabled students are to be successful in regular classrooms, both regular and special education teachers must change their instructional roles. Both regular students and learning disabled students may benefit. If you want to feel temporarily learning disabled and at a disadvantage, look at the figure on the following page for 15 seconds, close the book, then attempt to draw it from memory.



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3.3 Computer Applications

Because of legislative support between 1984 and 1987, North Carolina can boast of one computer for every 13 students. Many computers have also been purchased through private grants, school fund raisers, and categorical funds such as exceptional children funds.

Computer applications for LD students are promising in motivating reluctant learners and enhancing academic achievement. This section will examine research findings of computer effectiveness, types of computer software appropriate for use with LD students, techniques for selecting software, and ways to integrate computer use with daily classroom learning activities.

Effectiveness of Computers for Instruction

Consider the instructional needs of LD students and the special features of computers with appropriate software:

LD Students' Needs	Computer Features
focused attention	motivational
assistance with organizing	structured
academic reinforcement	immediate feedback
success in school	error-free practice
extra time	patient
clear directions	consistent
metacognitive development	problem-solving
smaller segments	teacher-controls
individualized instruction	built-in review
repetition	objective, nonjudgemental
appropriate reading level	sequenced
multiple modalities	self-checking
concrete, hands-on	interactive
immediate feedback	flexible
rewards	easy to correct
close monitoring	collects data

Research on the effectiveness of using computers and instructional software with learning disabled students has produced mixed results. Some studies have found computer assisted instruction more effective than traditional instruction, while others have found no significant differences (Lieber & Semmel, 1985). The focus of most studies has been increased achievement, increased motivation for learning, less time mastering material, and increased retention of material learned. The general outlook is positive because students generally do as well or better with computer assisted

instruction, especially with practice of skills already taught, increased motivation, and time-on-task. Factors which may be influencing research include the varying quality of software programs, match between instructional objectives and software, generally effective direct instruction methods used with many learning disabled students, and students' previous experience with computers.

Types of Software

The features of computers listed in the previous section are actually features of the most commonly used type of software--computer assisted instruction software. There are four general types of software which can be effective in working with LD students: computer assisted instruction, tool, programming, and telecommunication.

Computer Assisted Instruction Software

Computer assisted instruction (CAI) refers to software which provides or reinforces instruction. Although there are overlapping areas, CAI software can be categorized into five different types: drill and practice, tutorial, simulation, problem-solving, and mini-authoring programs.

Drill and practice. Drill and practice is the most commonly used type of CAI software. The software is designed to provide practice and review for skills already taught. Content area applications are limited only by the imaginations of software developers: math facts, vocabulary, grammar, science concepts, alphabet recognition, etc. Drill and practice features endless repetition, immediate feedback, branching for review, and data collection in an easy-to-use format. An example is DLM's *Math Masters Series*.

Cautions for the use of drill and practice software include ensuring students work on skills they need to practice and keeping track of student progress in programs without recordkeeping features.

Tutorials. Tutorial programs differ from drill and practice in actually teaching new skills or concepts, then providing practice for mastery. Good tutorial programs should keep track of individual progress in the program each time it is used, provide sophisticated branching so students can review previous concepts, use an appropriate instructional sequence, and make use of the special features of the computer like animation, graphics, and sound. An example of a tutorial is Sunburst's *Type to Learn*, a program which teaches keyboarding skills.

Cautions for using tutorial programs with elementary and secondary students are assuming the program will present skills in the appropriate sequence and overreliance on the program to teach children skills which should be taught by the teacher.

Simulations. Simulations are computer programs which create life-like situations in a problem-solving format. Simulations can provide students experiences with situations they could not normally experience: a nuclear reaction, a covered wagon trip, or flying a plane. Simulations often integrate several curricular areas and lend themselves to group efforts. An example of a simulation program is Mindscape's *American History Explorer Series.*

As with other integrated curricular approaches, use of simulations may make it difficult to pinpoint specific skills and concepts each student is learning.

Problem-solving. Problem-solving software is not content specific. Rather, it offers an environment for the development of skills such as recall, analyzing patterns, experimentation, drawing conclusions, planning, sequencing, and predicting. An example is Sunburst's *The Factory* where students can plan and produce "widgits" using three different types of machines.

Use of problem-solving software usually requires more time and planning. It is also difficult to measure student progress in developing problem-solving skills.

Mini-authoring programs. The term "mini-authoring" has been coined to refer to software packages (usually drill and practice) that allow teachers to modify instructional content, pacing, reinforcers, size of practice sets, input mode, sound, and other options. An example is Davidson & Associates' *Word Attack* which allows teachers to add new lists of vocabulary words along with their definitions and context sentences.

Mini-authoring programs are cost effective and can be designed to provide students practice on concepts selected by the teacher. They can be more time consuming to manage, but teachers often train students to assist in inputting new content.

Tool Software

Tool software provides a framework but no content. This type of software assists the user in performing a task. Examples are wordprocessors, data bases, spreadsheets, crossword makers, comic strip makers, and test generators. All have instructional applications but the most commonly used with LD students are wordprocessors.

Wordprocessors are similar to typewriters but text entry, editing, filing, and printing are easier to manipulate and offer more powerful options. The benefits of using wordprocessors are:

- neat printed copy
- sharing of work-in-progress is encouraged
- editing is simple
- special features free students to concentrate more on content
- some offer a spellchecker and thesaurus

Research with LD students using wordprocessors for writing tasks is mixed with regard to claims of increasing fluency, speed, and encouraging revision. Some mitigating factors may be students' keyboarding skills, facility with the various functions of the wordprocessor, and instruction in how to compose and edit using a wordprocessor.

Programming Software

The use of class time learning programming languages has limited value for LD students and has been challenged in general for the amount of time that is required to learn specific computer languages that may be obsolete before students leave school. The one exception is LOGO, a turtle graphics programming language.

LOGO was developed by Seymour Papert at MIT (1980). It is easy to begin--even preschoolers have become successful LOGO designers. By exploring LOGO, students learn important skills and concepts: planning, task analysis, sequencing, procedures within procedures, debugging, and geometric relationships.

Telecommunications Software

Telecommunications software allows a computer equipped with a modem to communicate via telephone lines with other computers around the world and with special subscriber services such as CompuServe or SpecialNet.

Students involved in telecommunication projects can communicate with other students, learning more about their state or country and developing better writing skills. The educational applications for this technology are boundless. Telecommunication software is relatively inexpensive (FrEdSender is a shareware package) and local telephone numbers are often available for subscriber services.

Software Selection

With thousands of instructional software products on the market, selection of software to use with LD students can be daunting. Common methods for selection include catalog browsing, dialog between users, trial basis previews, and selection based on published reviews. Because a computer is only as effective as the software used with it, investment in hardware merits similar investment in software which will meet instructional objectives.

The four-page evaluation form in Section 4.2 of the Appendices was developed with assistance of North Carolina special education teachers. Features of good software are categorized by technical design and content.

Sources for information on good software include:

Media Evaluation Center
North Carolina Department of Public Instruction
(Blue Ridge and Reedy Creek Roads)
Raleigh, North Carolina
919-733-3929

Services include:
- large software collection for on-site review
- monthly advisory lists mailed to each school
- workshops and evaluation sessions

Closing the Gap
P. O. Box 68
Henderson, MN 56044
(publish newsletter on technology for the handicapped)

The Computing Teacher
University of Oregon
1787 Agate Street
Eugene, OR 97403

Technology and Learning
2451 East River Road
Dayton, OH 45439

Teaching and Computers
Scholastic, Inc.
730 Broadway
New York, NY 10003-9538

Curriculum Integration

For a number of reasons, many classroom computers are idle for large parts of the school day or are used only for rewards or "free time." Appropriate software may not be available, computers are sometimes shared or sit in labs causing inconsistent use, or teachers may not be trained in the integration of this technology into daily activities.

Ideas for integrating software use:

- Compare the IEP objectives with software objectives.
- Establish a system for ensuring full-time but equitable use such as distributing computer cards each morning. Students may take computer time as needed and deposit their card in a box.
- Find out if your LEA subscribes to the Minnesota Educational Computing Consortium (MECC). If so, you can obtain programs from your central office. Be sure to copy the teacher's manual.
- Assign a student to each piece of software. List students and software on a chart near the computer. When other students need assistance, they will know who has mastered that program.

- Spend time orienting students to the computer and software. Stress proper booting and software handling.
- Use a data base for a cooperative learning project. Students are given a topic to research. They decide on important categories, design the data base, collect information, input the information, then ask questions using the completed data base. (FrEdBase is available in shareware.)
- Consider wordprocessors for purposes other than writing stories or papers:
  --typing in spelling words
  --making word lists for various topics
  --creating a class newspaper
  --typing final drafts of written work
  --round robin story, each student contributes a paragraph
  --creating structured poems
  --yes, there is also a shareware package called FrEdWriter
- Assign individual students specific drill and practice programs as a follow-up to instruction--in place of worksheets.
- Have students use a crossword maker or bingo maker to create puzzles and games using content area vocabulary.
- Set up the computer as part of a classroom learning center with task cards providing directions.
- Consider programs which lend themselves to group or individual competitions.
- Use the computer for a whole-group activity--split the video signal to a large TV monitor.
- Have students buy computer time as part of a behavior management plan or earn computer time by teaching other students.
- Develop systems for students to record their progress in computer sessions. This is especially important if programs do not have a record keeping component.

Specific Software

Software appropriate for reading, writing, and math are suggested in Section 4.1. Addresses of software publishers can be found in Section 4.3.1. Other software identified by North Carolina teachers as appropriate for use with exceptional students includes:

Problem-Solving/Simulation
Holt, Rinehart & Winston: *The Voyage of the Mimi*

Sunburst: *Iggy's Gnees, Odd one Out; The Factory, Winker's World of Patterns*
MECC: *Oregon Trail*
The Learning Company: *Moptown Parade*

Content Area
HRM Software: *Cardiovascular Fitness Lab*
Scholastic: *Physical Science and Life Science Data Bases*
Sunburst: *Elastic Lines; Playing with Science*
MECC: *Odell Lake*
Brøderbund: *Science Toolkit; Carmen Sandiego Series*
Ton Snyder: *National Inspirer*

Mini-Authoring Software
Hartley: *Create-Lessons; Create-Medalists*
Davidson: *Spell It; Math Blaster; Word Attack*
Advanced Ideas: *Master Match; The Game Show*
DLM: *Meteor Mission*

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3.4 Transition Planning

Approximately 2800 students with learning disabilities exit North Carolina's public schools each year. 53% graduate with diplomas, 8% with certificates, 33% drop out, and 6% leave for other reasons. What post-school options do these students have? How well have they been prepared for the challenges of adult life?

A national study of learning disabled individuals two years after high school found 17% involved in education or training programs, 19% employed part-time, and 38% employed full-time (Department of Education, 1989).

A study of former LD students in Iowa found that 64% were living with their families, 6.5% were involved in education or training, and 77% were engaged in full- or part-time employment (Sitlington & Frank, 1990). Of those employed, 37% were employed as laborers, 31% in service jobs, 13% as machine operators, 8% as craftsmen, and only 3% in higher status positions. Approximately 15% more males than females were employed, and females held lower level jobs.

Most of the follow-up studies on former learning disabled students reported in the literature report similar results--high dropout rates, low post-school educational involvement, high numbers employed only part-time and at minimum wage, and continued dependence on families. With the recent emphasis on transition services in schools, improved access to vocational programs, and transition planning efforts, learning disabled students in school today may have more options and greater success in the adult world.

This section will examine post-school options for learning disabled students, transition services needed in schools, transition planning strategies, and issues related to preparing students for the adult world.

Post-School Options

Teachers of learning disabled students should become familiar with various post-school options. These options include, but may not be limited to:

- Education
    - --Two-year Technical or Community College
    - --Four-year College
    - --Special Trade Schools
    - --Continuing or Adult Education
- Training
    - --Job Training Partnership Act Programs

--Vocational Rehabilitation

--On-the-Job Training Programs

--Apprenticeships

--Employer-sponsored Programs

--Vocational-technical Schools

- Employment

--Full-time

--Part-time

--Military

- Marriage/Home Making
- Unemployment

For each post-school option, the teacher should become familiar with prerequisites, make local contacts, and investigate the specific nature of the educational program, training situation, or job site so that information can be shared with students and parents.

Transition Services

The 1990 Individuals with Disabilities Education Act (P. L. 101-476) included new requirements for transition services. A statement of needed transition services must be included in the IEP for students 16 and older, and as appropriate for younger students. This legislation defined transition services as:

> "...a coordinated set of activities for a student, designed within an outcome-oriented process, which promotes movement from school to postschool activities including postsecondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living or community participation. The coordinated set of activities shall be based upon the individual student's needs, taking into account the student's preferences and interests, and shall include instruction, community experiences, the development of employment and other postschool adult living objectives, and, when appropriate, acquisition of daily living skills and functional vocational evaluation."

As of the time this handbook went to press, the regulations for P. L. 101-476 had not been released. The legislation has been written in broad terms so that transition services may include any instruction, training, evaluation, counseling, goal-setting, or other activity which prepares a student for his or her post-school environment. Many of these services are already included in IEPs as goals and objectives or related services.

School district administrators should assist IEP committees in identifying appropriate transition services, making contacts with other agency personnel, and developing interagency agreements. It may be appropriate for personnel from other agencies (Mental Retardation/Developmental Disabilities, Vocational Rehabilitation, Community College, Social Services, etc.) to attend planning meetings. Parents should sign permission for non school personnel to examine student records, participate in planning meetings, and provide services.

Some examples of transition services school personnel may provide include:

- academic preparation for college
- counseling and application for college
- community living skills training
- domestic living skills training
- development of personal-social skills
- driver education
- training in community sites
- vocational evaluation (functional)
- vocational training
- work experience in the community
- training in job seeking skills
- family living instruction
- instruction in budgeting and consumer awareness
- counseling about post-school options
- visitation of colleges or community programs

Some examples of transition services that could be provided by other agencies include:

- visitation of colleges or community programs
- functional vocational evaluation
- counseling about post-school options
- training in job seeking skills
- obtaining an identification card
- opening a bank account
- case management to continue past graduation
- job training
- assistance in obtaining affordable housing
- transportation assistance
- job placement

Transition Planning

The broader concept of transition planning includes discussing post-school options, making decisions about transition services needed during school years and beyond, and involvement in formal transition planning meetings. It is recommended that transition planning be a part of IEP planning each year beginning at least in the middle grades. P. L. 101-476 requires transition planning by age 16.

A transition planning checklist can be helpful for the planning team:

- discussion of post-school options and probable choices for employment, training, residence, school
- discussion of diploma or certificate goals
- academic, vocational, or functional skills needed to achieve goals
- possible coursework to provide skill training
- personal development
    - --personal hygiene
    - --social skills
    - --safety
    - --counseling
    - --participation in leisure and recreation
    - --family and friend networks
- other considerations
    - --transportation options
    - --medical care
    - --financial management
    - --case management
    - --citizenship responsibilities

Although P. L. 101-476 requires a statement in the IEP of needed transition services, the planning team should be aware of the differences in IEP development and transition planning. Transition planning takes a look at long-term goals--often 4 or 5 years away. Transition planning also identifies needed services as well as instructional goals and objectives.

Several school systems are using a transition document which is updated each year and attached to each annual IEP. Because the IEP includes instructional goals and objectives, there is no need to repeat those on the transition document. The transition document would include a statement of the student's post-school goals, a draft of courses

needed each year to achieve the post-school goals, and a list of services needed with specific responsibility assigned and due dates. The document is revised each year as needed.

Student Involvement in Transition Planning

Students should be active participants of IEP/transition planning meetings. Students who have been involved in planning tend to be more motivated towards learning, become better planners, become more active learners, have fewer behavioral problems, and show gains in self-concept and communication skills. Student involvement is critical if transition planning is to be successful.

A metacognitive strategy that has been developed to prepare students to be active participants of planning meetings is the Education Planning Strategy or I PLAN (Van Reusen, Bos, Schumaker, & Deshler, 1987). This educational strategy, like others based on the Strategy Intervention Model, employs a specific instructional sequence (see Section 2.2). Students learn how to use the following planning strategy:

I Inventory your strengths, weaknesses, interests, choices for learning
P Provide your inventory information
L Listen and respond
A Ask questions
N Name your goals

Van Reusen and Bos (1990) provide more detailed information on instructing students on the use of the Education Planning Strategy (I PLAN).

Issues

Transition planning has been a major focus for federal and state projects for the past six or seven years. During this period, interagency groups have identified a number of issues which should be addressed if transition planning is to be successful. These issues include:

- Provision of community-based instruction and related issues (transportation, insurance, supervision, etc.)
- Involvement of personnel from other agencies and their willingness to participate in planning meetings and provide services
- Lack of realistic goals on the part of parents and students (too high or too low)
- Access to the complete range of vocational programs
- Coordination of academic instruction with transition plans
- Access to college programs and Section 504 (equal access) issues

- Need for work experiences during the school years
- Developing job-related social skills
- Developing communication skills needed for work and adult life
- Developing self-advocacy and citizenship skills
- Employer awareness and understanding of the needs of LD individuals
- Personnel roles in transition planning and the provision of transition services
- Follow-up of former students as part of program evaluation
- Beginning planning too late for appropriate educational programs to be provided

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Michaels, C. A., Thaler, R., Giorglio, M., Zwerlein, R., & Apostoli, B. (1988). *How to succeed in college: A handbook for students with learning disabilities.* Alberston, NY: The National Center on Employment and Disability, Human Resources Center.

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3.5 Social Skills

Social skills problems have been acknowledged in many students with learning disabilities for years, but only in recent years have social skills deficits been primary targets for assessment and intervention strategies. The most recently proposed learning disability definitions have included social problems among the characteristics of learning disabled students (International Committee on Learning Disabilities, 1987; National Joint Committee for Learning Disabilities, 1990).

Social skills have been defined as "those interpersonal behaviors that allow an individual to interact successfully with others" (Morgan & Jenson, 1988). Good social skills are important for successful mainstreaming, strong self-concept, academic achievement, staying in school, and being successful on a job (Kerr, Nelson, & Lambert, 1987).

Gresham (1988) characterizes social skills deficits of learning disabled students as deficits in peer acceptance, quality of social interactions, academic self-control, communication skills, and social perception skills. He hypothesizes two causes of social skills problems: 1) social deficiencies are caused by a lack of social skills, or 2) social deficiencies are caused by the same factors that cause academic deficiencies (attention, perception, language, and listening deficits).

Assessment

As with other deficit areas, social skills intervention should begin with assessment to pinpoint specific social skill strengths and weaknesses. Assessment can help determine the nature and severity of the deficit, the environmental context, and whether students actually lack certain skills or lack the ability to apply or perform skills in the appropriate situations.

The following approaches are recommended for assessing learning disabled students' social skills (Fiedler & Chiang, 1989; Houck, 1984):

- social skills checklists completed by teachers and parents
- sociometric information gathered through peer rating strategies
- role play of hypothetical situations
- contrived situations
- direct observation with various data collection techniques
- interviews

Intervention Strategies

The following strategies have been identified in the literature on social skills training (Fiedler & Chiang, 1989; Kerr, Nelson, & Lambert, 1987):

- direct instruction of social skills
  - --reinforcing the importance of the skills
  - --modeling
  - --concept teaching using examples and non-examples
  - --role-playing
  - --coaching with corrective feedback
- contingent reinforcement for the use of new behaviors
- acting out the characters in well known stories
- group play with social rules reinforced
- peer tutors for social interaction opportunities
- self-monitoring using meta-cognitive techniques
- creating awareness of appropriate behaviors through discussion, role-play, pictures, and videotaped situations
- opportunities for skill maintenance and generalization by promoting self-directed rehearsal, performance, and evaluation

Issues

A topic as current as social skills training has already created controversy and examination of issues. Some issues to be aware of when implementing a program include (Gresham, 1988; Bryan & Lee, 1990; Fiedler & Chiang, 1989; Interagency Committee on Learning Disabilities, 1987; Bain & Farris, 1991):

- Some behavior change strategies require extensive time, training, and resources.
- Research is not conclusive on the long-term benefits (generalizability) of social skills training.
- Social skills training will only be effective if the behaviors taught are the ones actually causing social problems.
- Research has not been conducted on gender or age differences and implications for social skills training.
- A clear distinction has not been made between the role of the teacher and the role of the school counselor with regard to social skills training.
- The link between improved social skills and increased peer acceptance has not been verified.

- Social skills are contextual; assessing or teaching skills out of context is risky.
- Skills selected should have social value for the student's everyday environment.
- Teachers may not have the time or the training to include social skills in the curriculum.
- Parents have a role in reinforcing social skills.

Packaged Curricula

Many social skills training programs are commercially available; some are very extensive and include videotapes, assessment instruments, and supplementary materials. Most include social skills taxonomies, training procedures, scripts for modeling and role-playing, stories or scenarios, and activities to promote generalization. The following programs have been reviewed in the literature (Elksnin, 1989; Sabornie & Beard, 1990; Vaughn & LaGreca, 1988; Lewis & Doorlag, 1991):

JSAS: *Social Skills Training with Elementary School Students*

SRA: *PALS: Problem-solving and Affective Learning Strategies; Focus on Self-Development*

Research Press: *Getting Along with Others: Teaching Social Effectiveness to Children; Think Aloud; Skillstreaming the Adolescent; Skillstreaming the Elementary School Child; ASSET: A Social Skills Program for Adolescents*

Addison Wesley: *Aware: Activities for Social Development*

Pro-Ed: *The ACCEPTS Program; The ACCESS Program*

American Guidance Service: *DUSO-Revised: Developing Understanding of Self and Others; Social Skills for Daily Living*

Cedar Press: *Social Skills in the Classroom*

Applied Systems for Instructional Evaluation Publications: *Waksman Social Skills Curriculum*

References and Resources

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Bain, A. & Farris, H. (1991). Teacher attitudes toward social skills training. *Teacher Education and Special Education, 14*(1), 49-56.

Blackbourn, J. M. (1989). Acquisition and generalization of social skills in elementary-aged children with learning disabilities. *Journal of Learning Disabilities, 22,* 28-34.

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Fad, K. S. (1990). The fast track to success: Social-behavioral skills. *Intervention in School and Clinic, 26*(1), 39-43.

Fiedler, C. R., & Chiang, B. (1989). Teaching social skills to students with learning disabilities. *LD Forum, 15*(1), 19-21.

Gresham, F. M. (1988) Social competence and motivational characteristics of learning disabled students. In M. C. Wang, M. C. Reynolds, & H. J. Walberg (Eds.). *Handbook of special education: Research and practice, volume 2: Mildly handicapped conditions.* Oxford: Pergamon Press.

Gresham, F. M., & Elliott, S. N. (1989). Social skills deficits as a primary learning disability. *Journal of Learning Disabilities, 22,* 120-124.

Houck, C. K. (1984). *Learning disabilities.* Englewood Cliffs, NJ: Prentice-Hall.

Interagency Committee on Learning Disabilities (1987). *Learning disabilities: A report to the U. S. Congress.* Bethesda, MD: National Institute of Health.

Kerr, M. M., Nelson, C. M., & Lambert, D. C. (1987). *Helping adolescents with learning and behavior problems.* Columbus, OH: Merrill.

Lewis, R. B., & Doorlag, D. H. (1991). *Teaching special students in the mainstream* (3rd ed.). New York: Merrill.

Morgan, D. P., & Jensen, W. R. (1988). *Teaching behaviorally disordered students: Preferred practices.* Columbus, OH: Merrill.

Ness, J. E., & Price, L. A. (1990). Meeting the psychosocial needs of adolescents and adults with learning disabilities. *Intervention in School and Clinic, 26*(1), 16-21.

Sabornie, E. J., & Beard, G. H. (1990). Teaching social skills to students with mild handicaps. *Teaching Exceptional Children, 23*(1), 35-38.

Vaughn, S. R., & LaGreca, A. M. (1988). Social interventions for learning disabilities. In K. A. Kavale et al. (Eds.). *Handbook of learning disabilities, Part II: Methods and interventions.* Boston: College-Hill.

Section Four:

Appendices

APPENDICES

4.1 Resources for Curricular Areas

4.1.1 Reading

Best Practices

Reading is the most common area of difficulty for learning disabled students. As students progress through school, reading becomes more important for success in other subject areas.

Mercer and Mercer (1989) classify the primary approaches to beginning reading instruction as code-emphasis (stress letter-sound regularity) and meaning-emphasis (stress the use of common words). Code-emphasis approaches are favored in the initial teaching of decoding skills, but the addition of a meaning-emphasis approach may assist in teaching comprehension. Since no approach is successful for all students, the learning disabilities teacher should be familiar with a variety of approaches. For example:

Code-emphasis programs:
- Lippincott, *Basic Reading*
- SRA, *DISTAR*
- Merrill, *Merrill Linguistic Reading Program*
- Harcourt Brace Jovanovich, *Palo Alto Reading Program*

Meaning-emphasis programs:
- Ginn, *Ginn 720*
- Houghton Mifflin, *Houghton Mifflin Reading Series*
- Scott, Foresman, *Basics in Reading, The New Open Highways, Reading Unlimited*

Materials and Resources

The learning disabilities teacher should also be familiar with the following approaches to systematic reading instruction:

- Basal Reading
- Phonics
- Linguistic
- Language Experience
- Individualized Reading
- Programmed Reading
- DISTAR and Corrective Reading
- Edmark Reading Program
- Multisensory Reading Methods
- Orton-Gillingham Approach
- High Interest-Low Vocabulary Method

Scholastic Book Services: *Action Libraries, Real Life Reading Skills, Quest*
New Readers Press: *Be Informed, Challenger Series*
Fearon Pitman: *Pacemaker Classics, Pacemaker Best Sellers, Fastback Books*
Steck-Vaughan: *Superstars Series, Reading for Today*
Modern Curriculum Press: *High Action Reading Series*
Houghton Mifflin: *New Directions in Reading*
Harcourt Brace Jovanovich: *Rally*
Open Court: *The Reading Connection*
Merrill: *New Phonics Skilltexts*

Computer Software

DLM: *Hint and Hunt I, Construct-a-Word I*
The Learning Company: *Gertrude's Secrets, Reader Rabbit*
Sunburst: *The Puzzler, The Muppet Word Book*
Miliken: *Comprehension Power*
College Skills Center: *88 Passages, 66 Passages*
Davidson: *Word Attack, Speed Reader II*
MECC: *Paint with Words*
Laureate: *First Words, First Categories*
Scholastic: *Microzine*

Readings

Dana, C. (1991). An alternative approach to phonics instruction. *Teaching Exceptional Children, 23*, 32-37.

Graham, S. & Johnson, L. A. (1989). Research-supported teacher activities that influence the text reading of students with learning disabilities. *LD Forum, 15*, 27-30.

Gurney, D., Gersten, R., Dimino, J., & Carnine, D. (1990). Story grammar: Effective literature instruction for high school students with learning disabilities. *Journal of Learning Disabilities, 23*, 335-342.

Henk, W. A., Helfeldt, J. P., & Platt, J. M. (1986). Developing reading fluency in learning disabled students. *Teaching Exceptional Children, 18*, 202-213.

Peters, E., & Lloyd, J. (1987). Special focus: Effective instruction in reading. *Teaching Exceptional Children, 19*, 58-65.

O'Shea, D. J., & O'Shea, L. J. (1990). Theory-driven teachers: Reflecting on developments in reading instruction. *LD Forum, 16*, 80-91.

Simmons, D. C., & Kameenui, E. J. (1989). Direct instruction of decoding skills and strategies. *LD Forum, 15*, 35-38.

Zigmond, N., Vallecorsa, A., & Leinhardt, G. (1980). Reading instruction for students with learning disabilities.

4.1.2 Oral Language

Best Practices

Learning disabled students often have deficits in expressive and/or receptive language skills. The creation of a whole-language environment (listening, speaking, reading, writing) for instruction appears to be most effective because growth or deficits in one language area is usually related to similar developmental patterns in other areas. Listening and speaking skills develop first but each language form depends on the development of an underlying language system (Lerner, 1989).

Learning disabled students with receptive or expressive oral language deficits should be provided systematic instruction in increasingly more complex forms of language. Listening skills are often overlooked by teachers as an area needing direct instruction. Levels of skills include auditory perception, understanding words and concepts, understanding phrases and sentences, auditory memory, and listening comprehension. Spoken language skills include production of speech sounds, vocabulary development, use of grammar, and development of complex sentence structures.

If a student is identified as learning disabled solely on the basis of oral expression and/or listening comprehension and he/she meets identification criteria for language therapy, that student should be classified as language impaired with the speech-language specialist as the primary service provider. If the student demonstrates discrepancies in the area of oral expression and/or listening comprehension as well as discrepancies in academic performance in reading, written expression, mathematics, etc., the speech-language specialist and learning disabilities teacher should work together in developing the IEP. The student would be classified as specific learning disabled with speech-language as a related service.

Materials and Resources

Developmental Learning Materials: *All-Purpose Photo Library, Concepts for Communication*
Teaching Resources: *Basic Concept Stories, Fokes Sentence Builder*
Merrill: *Let's Talk: Developing Prosocial Communication Skills*
American Guidance Service: *Peabody Language Development Kits*
Communication Skill Builders: *Syntax One; Syntax Two*
Steck-Vaughan: *Language Exercises, Language Skill Books*

Readings

Mandlebaum, L. H., & Wilson, R. (1989). Teaching listening skills. *LD Forum, 15*, 7-9.

Trelease, J. (1989). *The new read aloud handbook*. New York: Penguin Books.

4.1.3 Written Language

Best Practices

Written expression is one of the most complex skills facing learning disabled students. Skills in other areas such as reading, spelling, handwriting, oral expression, and thinking are also required in written expression tasks.

Hammill and Poplin (1982) provide three levels of written expression goals: minimum competency for in-school writing requirements, competency for out-of-school requirements (forms, letters, messages), and the expression of creativity and thought in writing.

Subskill areas of focus include:

- vocabulary development (and spelling)
- mechanics of writing (capitalization, punctuation, parts of speech)
- organization of thought (main idea, sequence, detail)
- creative thought (description, characterization)

Materials and Resources

Merrill: *Grammar and Composition*
Curriculum Associates: *Lessons for Better Writing*
EDL: *Write to Succeed Series*
Educational Design: *Life Skills Writing*
Steck-Vaughan: *Language in Daily Living*
SRA: *Corrective Spelling Through Morphographs*

Computer Software

Wordprocessors:
Sunburst: *Magic Slate*
Scholastic Software: *Bank Street Writer III, Talking Textwriter*
CUE Softswap: *FrEdWriter*
Claris: *Appleworks*
LCSI: *LogoWriter*

Writing and Spelling:
Davidson: *Spell It!; Word Attack*

Behavioral Engineering: *Composition Strategy*
Hartley: *Capitalization: Kittens, Kids, and a Frog*
The Learning Company: *Magic Spells; Writer Rabbit*
Mindscape: *Bank Street Storybook*
Teacher Support Software: *Language Experience Primary Series*
Hartley: *My Words*
Scholastic: *Story Tree*
DLM: *The Writing Adventure*
Silver Burdett & Ginn: *Suspect Sentences*
Various publishers: Big book makers

Keyboarding:
Sunburst: *Type to Learn*
Southwestern Publishing: *Microtype: The Wonderful World of Paws*
Academic Therapy: *Typing Keys to Computer Ease*
Scholastic: *Typing Tutor III*

Readings

Christenson, S. L., Thurlow, M. L., & Ysseldyke, J. E. (1983). Written language instruction for students with mild handicaps: Is there enough quantity to ensure quality? *Learning Disability Quarterly, 12*, 219-229.

Cox, J. P., & Woods, E. (1988). Directed reading and writing. *Teaching Exceptional Children. 20*, 33-35.

Dixon, R. C. (1991). The application of sameness analysis in spelling. *Journal of Learning Disabilities, 24*, 285-291.

Espin, C. A., & Sindelar, P. T. (1988). Auditory feedback and writing: Learning disabled and nondisabled students. *Exceptional Children, 55*, 45-51.

Frank, A. R. (1987). Directed spelling instruction. *Teaching Exceptional Children, 20*, 10-13.

Graham, S. & Harris, K. R. (1989). Improving learning disabled students' skills at composing essays: Self-instructional strategy training. *Exceptional Children, 56*, 201-216.

Graham, S., Harris, K. R., MacArthur, C. A., & Schwartz, S. (1991). Writing and writing instruction for students with learning disabilities: Review of a research program. *Learning Disability Quarterly, 14*, 89-114.

Hammill, D. D., & Poplin, M. (1982). Problems in written composition. In D.D. Hammill & N.R. Bartel, *Teaching children with learning and behavior problems* (3rd ed.). Boston: Allyn & Bacon.

Isaacson, S. (1988). Teaching written expression. *Teaching Exceptional Children, 20*, 32-33.

Jochum, J. (1990). Interactive journal writing: A bridge between thought and expression. *LD Forum, 16*, 61-68.

Levy, N. R., & Rosenberg, M. S. (1990). Strategies for improving the written expression of students with learning disabilities. *LD Forum, 16*, 23-30.

Vallecorsa, A. L., & Garriss, E. (1990). Story composition skills of middle-grade students with learning disabilities. *Exceptional Children, 57*, 48-55.

Vallecorsa, A. L., Ledford, R. R., & Parnell, G. G. (1991). Strategies for teaching composition skills to students with learning disabilities. *Teaching Exceptional Children, 23*, 52-55.

4.1.4 Mathematics

Best Practices

In 1980 the National Council for Teachers of Mathematics recommended the following areas of emphasis for mathematics curricula: problem solving, everyday applications, estimation and approximation, computational skills, geometry, measurement, reading and interpreting tables and graphs, prediction, and computer literacy.

Characteristics of learning disabled students which may be related to math disabilities include: problems with spatial relationships, size, sequence, time, perseveration, abstract thinking, memory, visual discrimination, generalization, inference, strategy application, and attending. Learning disabled students may need more examples at the concrete level or at least semi-concrete level in order to comprehend math problems.

Problem solving and the underlying understanding of mathematical concepts should be the central focus of math instruction. Probably the most serious mistake by special education teachers is to approach math from a skills development mode, working with basic computation skills in "preparation" for problem solving applications. Learning disabled students are often not provided sufficient exposure to units on time, money, geometry, measurement, place value, or estimation for the sake of spending more time on computation skills. With the universal use of calculators it will become more important that a student know whether to add or subtract and why than to do the actual computation.

Materials and Resources

SRA: *DISTAR Arithmetic Kits, Corrective Mathematics Program*
Cuisenaire Company of America: *Cuisenaire Rods*
Educational Teaching Aids: *Unifix Materials*

Hubbard: *Real-Life Math*
Educational Design: *Life Skills Math*
Educational Progress Corporation: *Project MATH*
Creative Publications: *Attribute Blocks, Matter of Facts*
Steck-Vaughan: *Mathematics in Daily Living*
Fearon: *Using Dollars and Sense*
PRO-ED: *Computational Arithmetic Program*
American Guidance Services: *Key Math Early Steps Program, Teach and Practice*
Edge Enterprises: *Mercer Math Operations Strategies*

Computer Software

Various publishers: LOGO
Davidson: *Math Blaster*
The Learning Company: *Number Stumper, Addition Magician, Math Rabbit, Bumble Games, Rocky's Boots*
Metacomet Software: *Magic Cash Register*
Sunburst: *Survival Math, Teasers by Tobbs; Geometric Supposers*
Miliken: *Miliken Math Sequences*
MECC: *Space Subtraction, Early Addition, Clock Works; Number Munchers*
DLM: *Number Farm, Alligator Alley, Math Fluency Program, Math Masters Series*
Weekly Reader: *Stickybear Math, Stickybear Numbers*
Scholastic: *Math Shop*
Mindplay: *Easy Street*

Readings

Capps, L. R., & Cox, L. S. (1991). Improving the learning of mathematics in our schools. *Focus on Exceptional Children, 23*(9), 1-8.

Engelmann, S., Carnine, D., & Steely, D. G. (1991). Making connections in mathematics. *Journal of Learning Disabilities, 24*, 292-303.

Hasselbring, T. S., Goin, L. I., & Bransford, J. D. (1987). Developing automaticity. *Teaching Exceptional Children. 19*, 30-33.

Jones, E. D. (1990). Developing curricula for mathematical problem solving. *LD Forum, 16*, 42-48.

Lambie, R. A., & Hutchens, P. W. (1986). Adapting elementary school mathematics instruction. *Teaching Exceptional Children, 18*, 185-189.

Mastropieri, M. A., Scruggs, T. E., & Shiah, S. (1991). Mathematics instruction for learning disabled students: A review of research. *Learning Disabilities Research and Practice, 6*, 89-98.

McIntyre, S. B., Test, D. W., Cooke, N. L., & Beattie, J. (1991). Using count-bys to increase multiplication facts fluency. *Learning Disability Quarterly, 14*, 82-88.

Peters, E. et al. (1987). Effective mathematics instruction. *Teaching Exceptional Children. 19*, 30.

Stein, M. (1987). Arithmetic word problems. *Teaching Exceptional Children. 19*, 33-35.

4.1.5 Functional Skills

Section Two contains a discussion of the importance of teaching functional skills to students with learning disabilities and important references.

Materials and Resources

Educational Activities: *How to Write for Everyday Living, Math for Everyday Living*
DLM: *Survival Words Program*
Frank E. Richards: *Application Forms*
New Readers Press: *The Be-Informed Series*
King Features Syndicate: *Comics Career Awareness Program*
Grolier Educational Corporation: *Modern Consumer Education*
Olympus: *Of Work and Worth: Career Education*
Fearon Pitman: *Pacemaker Vocational Readers*
Social Science Education Consortium: *Tips for Infusing Career Education into the Curriculum*
Educational Design: *Life Skills Writing, Life Skills Math*
Steck-Vaughn: *Reading for Today, Managing Money, How to Get a Job and Keep It*
Janus: *Janus Job Interview Guide*
Harvest Educational Labs: *Decisions at Work*

4.2 Software Evaluation Form

Division of Exceptional Children's Services
Department of Public Instruction

Revised 12/91
Raleigh, North Carolina

SOFTWARE REVIEW FORM

Name of Reviewer _____ Date of Review _____

School/LEA _____

Other Reviewer Information _____

I. DESCRIPTION

Title _____ Date _____

Series Title (if applicable) _____ # of Disks _____

Publisher _____ Cost _____

Hardware Requirements _____

Back-up/Replacement or Preview Policies _____

Subject Area _____ Scope: K 1 2 3 4 5 6 7 8 9 10 11 12

Type of Instruction: _____ regular _____ remedial _____ enrichment

Instructional Grouping: _____ individual _____ small group _____ class

Minimum Time Requirements for a Session _____

Type of Program (check all that apply):

___ Drill/Practice
___ Tutorial
___ Problem Solving
___ Diagnostic
___ Other _____

___ Simulation
___ Game Format
___ Teacher Utility
___ Tool

II. DOCUMENTATION

Check all items included in package:

___ Operating instructions
___ Prerequisite skills
___ Instructional objectives
___ Supplementary materials (list):

___ Sample run
___ Scope/sequence
___ Follow-up activities
___ Specific claims about use with handicapped or gifted

Describe scoring, performance reporting or other management features:

III. TECHNICAL DESIGN

Check each feature (do not mark those not applicable):

Yes	No		Comments
Y	N	Quick and easy to load.	
Y	N	Instructions given on how to exit or start over.	
Y	N	Can be operated independent of teacher assistance.	
Y	N	Student can control rate and sequence.	
Y	N	Branching is used to access review or appropriate levels.	
Y	N	Instructions are accessible as needed.	
Y	N	Program varies for a repeat user.	
Y	N	Confirms correct responses appropriately.	
Y	N	Responds to errors appropriately.	
Y	N	Responses require correction before program continues.	
Y	N	Work can be saved and started at another time.	
Y	N	Screen is not cluttered or distracting.	
Y	N	Provides a summary of performance.	
Y	N	Hardcopy of student progress is available.	
Y	N	Packaging is convenient and durable.	

Check techniques used in program (comment about quality):

___ Graphics
___ Animation
___ Sound
___ Music
___ Speech
___ Randomization
___ Color
___ Time display
___ Text size
___ Other _____

IV. MODIFICATIONS

Check the features which can be modified:

___ Rate/time
___ Sound
___ Vocabulary level
___ No. of trials
___ Criteria for success
___ Content
___ Print size or spacing
___ Graphics
___ Speech
___ Feedback mode _____
___ Reinforcement schedule
___ Other _____

_____

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V. CONTENT

Briefly summarize the program's content:

Check each feature (do not mark those not applicable):

Yes	No		Comments
Y	N	Content is factually accurate.	
Y	n	Uses branching to easier or harder material based on performance.	
Y	N	The presentation is clear and logical.	
Y	N	Material is age-appropriate.	
Y	N	Free of bias or stereotype.	
Y	N	High degree of learner interaction.	
Y	N	Level of reading required consistent with developmental level of content.	
Y	N	Feedback and reinforcement appropriate to level of content.	
Y	N	Focuses learner's attention, attention span requirements match developmental level of content.	
Y	N	Utilizes previous learning, will generalize to other experiences.	
Y	N	Stimulates creativity.	

VI. PREREQUISITE SKILLS REQURED

Reading level _____ Interest level _____
Other level(s) _____

Sound required _____
Computer use _____
Physical demands _____
Speed/Accuracy demands _____
Recall of information _____
Color discrimination _____
Other required skills _____

VII. SUMMARY

Summarize the program's strengths:

Summarize the program's weaknesses:

Do you recommend this program? _____

If yes, describe potential uses of this program with exceptional students.

To my knowledge, no attempt has been made to copy this program.

_____
(Signature)

_____
(Date)

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4.3 Organizations and Journals

Council for Exceptional Children
1920 Association Drive
Reston, VA 22091
703-620-3660

Exceptional Children
Teaching Exceptional Children

- Division for Learning Disabilities — *Learning Disabilities: Research and Practice*
- Division of Career Development — *Career Development for Exceptional Individuals*
- Technology and Media Division — *Journal of Special Education Technology*
- Division for Early Childhood — *Journal of Early Intervention*

Council for Learning Disabilities
Box 40303
Overland Park, KS 66204
913-492-8755

Learning Disability Quarterly
LD Forum

HEATH Resource Center
(Higher Education and Adult Training for People with Handicaps)
One DuPont Circle, Suite 800
Washington, D. C. 20036-1193
1-800-544-3284

Learning Disabilities Association of America
4156 Library Road
Pittsburgh, PA 15234
412-341-1515

LDAA Newsbriefs

Learning Disabilities Association of North Carolina, Inc.
P. O. Box 3542
Chapel Hill, NC 27515-3542

LDANC Keynotes

Association for Educational and Psychological Consultants
2201 N. Lamar, Suite 207
Austin, TX 78705

Journal of Educational and Psychological Consultation

Association of Learning Disabled Adults
Box 9722, Friendship Station
Washington, D. C. 20016

National Center for Learning Disabilities
99 Park Avenue
New York, NY 10016
212-687-7211

Their World

National Network of Learning Disabled Adults
800 N. 82 Street, Suite F2
Scottsdale, AZ 85257

Orton Dyslexia Society
724 York Road
Towson, MD 21204

PRO-ED Publishers
8700 Shoal Creek Blvd.
Austin, TX 78758-6897

Intervention in School and Clinic (formerly *Academic Therapy*)

Pro-Ed Publishers
5341 Industrial Oaks Blvd.
Austin, TX 78735

Remedial and Special Education

Pro-Ed Publishers
8700 Shoal Creek Blvd.
Austin, TX 78758-6897

Journal of Special Education

4.4 Publishers

4.4.1 Software

Publisher	Notes
Advanced Ideas 2902 San Pablo Ave. Berkley, CA 94702	
Cambridge Development Laboratory, Inc. 214 Third Avenue Waltham, MA 02154 1-800-637-0047	
Bainum Dunbar, Inc. 6427 Hillcroft, Suite 133 Houston, TX 77081	
Behavioral Engineering 230 Mr. Herman Rd. Scotts Valley, CA 95066	
Brøderbund P. O. Box 12947 San Rafael, CA 94913-2947	
Davidson & Associates, Inc. 3135 Kashiwa Street Torrance, CA 90505	

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Developmental Learning Materials (DLM)
Box 4000
One DLM Park
Allen, TX 75002
or
7611 Briardale Drive
Charlotte, NC 28212
704-536-6933

Grolier Electronic Publishing
Sherman Turnpike
Danbury, CT 06816

Hartley Courseware
Box 431
Dimondale, MI 48821

Houghton-Mifflin Company
Educational Software Division
P. O. Box 683
Hanover, NH 03755

IBM Educational Systems
Dept. WH, P. O. Box 2150
Atlanta, GA 30035

K-12 Micromedia (Distributor)
172 Broadway
Woodcliff Lake, NJ 07675

Laureate
110 E. Spring Street
Winooski, VT 05404

Learning Company
545 Middlefield Road
Menlo Park, CA 94025

Learning Well
200 South Service Road
Roslyn Heights, NY 11577

Macmillan
866 Third Avenue
New York, NY 10022

MECC
3490 Lexington Avenue North
St. Paul, MN 55126

Milliken
2225 Grant Road
Los Altos, CA 94022

Mindplay
100 Conifer Hill Drive, Suite 301
Danvers, MA 01923

Mindscape
3444 Dundee Road
Northbrook, IL 60062

Scholastic
2931 E. McCarty Street
Jefferson City, MO 65102

Silver Burdett & Ginn
4343 Equity Dr.
P. O. Box 2649
Columbus, OH 43216

Spinnaker
215 First Street
Cambridge, MA 02142

Springboard Software, Inc.
7807 Creekridge Circle
Minneapolis, MN 55435

Sunburst Communications
39 Washington Avenue
Box 40
Pleasantville, NY 10570

Teacher Support Software
P. O. Box 7130
Gainesville, FL 32605

Tom Snyder Productions
123 Mt. Auburn Street
Cambridge, MA 02138

Walt Disney Educational Media
500 S. Buena Vista Street
Burbank, CA 91521

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4.4.2 Publishers of Materials and Textbooks

Publisher	Notes
American Guidance Service Publisher's Building Circle Pines, MN 55014	
Communication Skill Builders 3130 North Dodge Boulevard Box 42050-H Tucson, AZ 85733	
Creative Publications 3977 East Bayshore Road Box 10328 Palo Alto, CA 94303	
Cuisenaire Company of America 12 Church Street New Rochelle, NY 10805	
Curriculum Associates 5 Esquire Drive North Billerica, MA 01862	
Developmental Learning Materials Box 4000 One DLM Park Allen, TX 75002	
Edge Enterprises, Inc. P. O. Box 1304 Lawrence, KS 66044	
EDL P. O. Box 21024 Columbia, SC 29221	
Edmark Corporation Box 3903 Bellevue, WA 98009	
Educational Design, Inc. 47 West 13 Street New York, NY 10011	
Fearon Pitman Publishers Dept. J. B. 6 Davis Drive Belmont, CA 94002	

Ginn and Company
191 Spring Street
Lexington, MA 02173

Globe Book Company
190 Sylvan Avenue
Englewood Cliffs, NJ 07632
Graphic Learning Company
P. O. Box 13829
Tallahassee, FL 32317

Harcourt Brace Jovanovich, Inc.
Southeast Regional School Department
7401 Dowden Road
Orlando, FL 32887

Harvest Educational Labs
Pelham Street
Newport, RI 02840

Hawthorne Educational Services
P. O. Box 7570
Columbia, MO 65205

D. C. Heath and Company
5925 Peachtree Industrial Blvd.
Atlanta, GA 30341

Holt, Rinehart, Winston, Inc.
1325 Oakbrook Drive, Suite E
Norcross, GA 30093

Houghton Mifflin
One Beacon Street
Boston, MA 02107

Hubbard
Box 104
Northbrook, IL 60062

Janus Book Publishers, Inc.
2501 Industrial Parkway W.
Haywood, CA 94545-5097

J. B. Lippincott Company
Educational Publishing Division
East Washington Square
Philadelphia, PA 19105

Macmillian Publishing Company
6510 Jimmy Carter Blvd.
P. O. Box 319
Norcross, GA 30091

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Media Materials
2936 Remington Avenue
Baltimore, MD 21211

Charles E. Merrill Publishing Company
1300 Alum Creek Drive
Columbus, OH 43216

Modern Curriculum Press
13900 Prospect Road
Cleveland, OH 44136

New Readers Press
1320 Jamesville Avenue
Box 131
Syracuse, NY 13210

Open Court Publishing Co.
Box 599
Peru, IL 61354

Prentice-Hall/Allyn & Bacon
5925 Peachtree Industrial Blvd.
Chamblee, GA 30341

Scholastic Press, Inc.
5925 Peachtree Ind. Blvd.
Atlanta, GA 30341

Science Research Associates (SRA)
1540 Page Mill Road
Palo Alto, CA 94304

South-Western Publishing Company
5101 Madison Road
Cincinnati, OH 45227

Steck-Vaughan Company Publishers
807 Brozos
Austin, TX 78768

Teaching Resources
Box 4000
One DLM Park
Allen, TX 75002

Wadsworth, Inc.
7625 Empire Drive
Florence, KY 41042

West Publishing Company
50 West Kellogg Street
St. Paul, MN 55102

4.5 Books and Other Resources on Learning Disabilities

Anderson, W., Chitwood, S., & Hayden, D. (1990). *Negotiating the special education maze: A guide for parents and teachers* (2nd ed.). Rockville: MD: Woodbine House.

Bloom, J. (1990). *Help me to help my child: A sourcebook for parents of learning disabled children.* Boston: Little, Brown and Company.

Chiang, B., & Ford, M. (1990). Whole language alternatives for students with learning disabilities. *LD Forum, 16,* 31-34.

Cordoni, B. (1987). *Living with a learning disability.* Carbondale, IL: Southern Illinois University Press.

Cummings, R. W. & Maddux, C. D. (1985). *Parenting the learning disabled: A realistic approach.* Springfield, IL: Charles C. Thomas.

Kerr, M. M., Nelson, C. M., & Lambert, D. L. (1987). *Helping adolescents with learning and behavior problems.* Columbus: Merrill.

Gottesman, D. M. (1982). *The powerful parent: A child advocacy handbook.* Norwalk, CT: Appleton-Century-Crofts.

Greene. L. J. (1987). *Kids who hate school: A survival handbook on learning disabilities.* New York: Fawcett Book Group.

Ingersoll, B. (1988). *Your hyperactive child: A parent's guide to dealing with attention deficit disorder.* New York: Doubleday.

Lerner, J. W. (1988). *Learning disabilities: Theories, diagnosis, and teaching strategies* (5th ed.). Boston: Houghton Mifflin Company. (Chapters on oral language, reading, written language, and mathematics)

Levine, M. D. (1987). *Developmental variation and learning disorders.* Cambridge: Educators Publishing Services, Inc.

Levine, M. D. (1990). *Keeping a head in school: A student's book about learning abilities and learning disorders.* Cambridge: Educators Publishing Service, Inc.

Lewis, R. B., & Doorlag, D. H. (1991). *Teaching special students in the mainstream* (3rd ed.). New York: Macmillan.

McCarney, S. B., & Bauer, A. M. (1990). *The parent's guide to attention deficit disorders: Intervention strategies for the home.* Columbia, MO: Hawthorne Educational Services.

Mercer, C. D., & Mercer, A. R. (1989). *Teaching students with learning problems* (3rd ed.). Columbus: Charles E. Merrill Publishing Company.

Osman, B. B. (1982). *No one to play with: The social side of learning disabilities.* New York: Random House.

Schloss, P. J., Smith, M. A., & Schloss, C. N. (1990). *Instructional methods for adolescents with learning and behavior problems.* Boston: Allyn and Bacon.

Silver, L. B. (1988). *The misunderstood child: A guide for parents of learning disabled children.* New York: McGraw-Hill.

Smith, S. L. (1987). *No easy answers: The learning disabled child at home and at school.* New York: Bantam.

Stevens, S. H. (1984). *Classroom success for the learning disabled.* Winston-Salem: John F. Blair, Publisher.

Ungerleider, D. (1985). *Reading, writing,and rage.* Rolling Hills, CA: Jalmar Press.

Vail, P. L. (1987). *Smart kids with school problems: Things to know and ways to help.* New York: Dutton.

Vaughn, S., & Bos, C. S. (1987). *Research in learning disabilities: Issues and future directions.* Boston: College-Hill Publication.

Zigmond, N., Sansone, J., Miller, S. E., Donahoe, K. A., & Kohnke, R. (1986). *Teaching learning disabled students at the secondary school level.* Reston, VA: Council for Exceptional Children.

4.6 Case Study

The following case study is hypothetical and was developed to illustrate the referral, placement and intervention process. Any similarity between the subject of the case study and actual students is coincidental.

It is hoped that this case study will be useful in applying information presented in this handbook. It should be noted that the presentation of one case study cannot give a complete picture of all possible variations of placement decisions and program options.

Background Information

Lowell is an 8th grade student at Center Town Middle School. Lowell was identified as specific learning disabled in the third grade and has received special education services each year since.

Prereferral

Lowell's third grade teacher, Mr. Mills, initiated prereferral activities in September after he had collected informal work samples from his class. Mr. Mills contacted the chair of the school screening committee to express his concern for Lowell's performance and to seek advice. The chair of the screening committee, Mr. Rose, concurred that the work samples Mr. Mills had gathered were not reflective of beginning third grade work. Mr. Rose asked Mr. Mills to attend the next screening committee meeting so that prereferral activities could be initiated.

At the screening committee meeting, Mr. Mills presented Lowell's work samples and some samples from other students in the class. He also provided information gleaned from Lowell's confidential folder. He noted that Lowell had transferred into Center Town Elementary School in April of the past school year. Lowell had attended a private kindergarten and had repeated first grade. Teacher comments included, "Lowell does not know the sounds for his letters," " Lowell has extreme difficulty forming letters on paper," and "Lowell is very immature in social situations." Lowell's second grade teacher noted that Lowell was in the lowest reading group and seemed to recognize words by sight. However, Lowell enjoyed school and was never a behavior problem.

Mr. Mills described Lowell's strengths and weaknesses noted in the first month of school. He had good verbal skills and used a rather large vocabulary but had problems decoding new words, understanding what had been read, and writing complete sentences on paper. Lowell had not mastered addition or subtraction facts, although he could add and subtract two digit numbers without regrouping.

The screening committee agreed that Lowell's academic achievement was significantly delayed and that it warranted further examination. The screening committee asked Mr. Mills to set up a parent conference to express concern about Lowell's performance, to collect further background information, and to provide them written notification that screening procedures were beginning. The screening committee also outlined two interventions for Mr. Mills to try with Lowell with the assistance of the special education consulting teacher, Mrs. Tharin: attempting a different strategy for teaching reading, and using specific computer programs to reinforce vocabulary and math skills. They asked Mr. Mills to continue to collect work samples and quick, informal curriculum-based assessment data. The screening committee assigned a member to observe Lowell in Mr. Mills' class and requested the school nurse screen Lowell's vision and the audiologist to screen Lowell's hearing.

The screening committee met again after four weeks of intervention to discuss Lowell's progress. Lowell had made significant progress in math but was having the

same problems in reading and writing. The work samples and informal assessment data showed very little improvement in these areas. Information from Lowell's parents indicated that Lowell had one older brother who was a good reader and made excellent grades in school. Lowell seemed to have trouble following directions at home and keeping track of his possessions.

Referral

The screening committee completed the "Focus of Concern/Screening" form with the information that had been gathered. The decision of the screening committee was to refer Lowell's case to the school-based committee for further evaluation. The screening committee completed the "Exceptional Children Referral" form and sent it along with the "Focus of Concern" and "Parent Notification of Screening" to the chair of the school-based committee. The chair noted on the form that it was received on November 5 (a placement, if warranted, would have to be made by February 3, ninety calendar days from the referral date).

The school-based committee sent Lowell's parents a consent form "Prior Notice and Parent/Guardian Consent for Evaluation," explaining that a referral had been made and requesting their consent to conduct a more in-depth evaluation. A copy of the *Handbook on Parent's Rights* was also sent to Lowell's parents.

Evaluation

The multidisciplinary team was asked to conduct Lowell's evaluation because a specific learning disability was suspected. Mr. Mills, Mrs. Tharin, Dr. Huneycutt (the school psychologist), and Mrs. Lewis (a member of the school-based committee) comprised the multidisciplinary team.

It was decided that Mrs. Tharin, who was trained in learning disabilities, would conduct educational assessments of reading recognition and comprehension, math calculation and problem solving, and written and oral expression; Mrs. Lewis would conduct another, more in-depth classroom observation; and Mr. Mills would complete an adaptive behavior evaluation and continue to collect work samples and curriculum-based assessment data. Dr. Huneycutt would conduct a psychological evaluation and Mrs. Lewis would be responsible for compiling all the information the multidisciplinary team gathered.

By December 10 all aspects of the evaluation had been completed and the multi-disciplinary team reconvened. The team's results were summarized on the form "Summary of Evaluation Results" and were used to complete the "Multidisciplinary Team Report." Lowell demonstrated significant discrepancies between his ability (in the above average range) and his achievement in written expression and reading. The

multidisciplinary team agreed that the discrepancy was significant, that it required special education intervention, and that no other causes could be attributed to this lack of achievement other than a specific learning disability. These recommendations were forwarded to the school-based committee.

Evaluation Results

The school-based committee sent Lowell's parents an "Invitation to Conference" stating that they would like to discuss Lowell's evaluation results and develop an Individualized Education Program.

The meeting was held December 15. Dr. Huneycutt and Mrs. Tharin reviewed the evaluation results with Lowell's parents. The school-based committee chair explained that Lowell, in the opinion of the multidisciplinary team, had specific learning disabilities in the areas of reading and written expression. The multidisciplinary team felt that these disabilities were causing significant problems in Lowell's academic achievement and that special education intervention was required.

IEP Development

Lowell's parents agreed to the committee's recommendations so the group decided to go ahead and develop an Individualized Education Program which would provide the types of interventions needed for Lowell to achieve academically. They invited Mr. Mills, Lowell's regular classroom teacher, to participate in developing the IEP.

Present Level of Performance. The group, now an IEP Committee, decided that Lowell's strengths were oral expression, social skills, and math computation and problem solving. His areas of weakness were reading (decoding and comprehension) and written expression (spelling, forming letters, writing sentences). Lowell's parents added "following oral directions" to the IEP.

Goals and Objectives. The IEP Committee then developed long-term goals and short-term objectives in each area of weakness. They agreed on a reading approach and on a sequence of words to use in reading, spelling, and writing activities. Systematic reading comprehension strategies were discussed and plans were made to reinforce their use in all of Lowell's reading including content area reading. The teachers also designed a system for periodic performance checks and ways to communicate Lowell's progress with his parents.

Least Restrictive Environment. Finally, the committee discussed the best possible way to achieve the goals and objectives. They discussed the options of a self-contained class for students with learning disabilities, a resource class for approximately one to three hours per day, a pull-out class for only an hour per day, and indirect or direct services in the regular classroom by a special education consulting

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teacher. The committee discussed these options in terms of how much intervention Lowell needed in reading and written expression and whether the special education program would be totally responsible for the intervention (supplant) or support and collaborate with the intervention in the regular classroom.

The committee decided that Lowell should receive two 40-minute periods in the learning disability resource room each day--one for reading and one for written expression. The special education consulting teacher, Mrs. Tharin, would assist Mr. Mills, Lowell's regular teacher, with classroom instruction that would be coordinated with that of the resource room. The committee decided the term of the IEP should be through May when the IEP Committee should reconvene to review Lowell's progress.

Placement

The IEP Committee forwarded the results of the meeting to the school-based committee on December 17. The school-based committee agreed with the multidisciplinary team decision that Lowell had a specific learning disability and with the IEP committee's recommendation for placement. These recommendations and the developed IEP were sent to the administrative placement committee with the form "Recommendation/Approval for Placement."

The administrative placement committee met on December 20 and approved the school-based committee recommendations and the IEP which had been developed with the participation of Lowell's parents. The administrative placement committee sent Lowell's parents the form "Prior Notice and Consent for Initial Placement" and a copy of the IEP. Lowell's parents mailed their consent back to the school. As soon as the consent was received, Lowell's new program was begun.

Implementing the IEP

Lowell's resource teacher, the special education consulting teacher, and Lowell's classroom teacher met to develop more specific lesson plans to meet the IEP objectives. Revisions to instructional approaches were made as needed. Lowell's parents were kept informed periodically of his progress.

Reevaluation/Change of Placement

Lowell is now in the eighth grade. His progress in school has been steady, although reading and written expression are still weak areas. At his three-year reevaluation in the sixth grade, a complete evaluation was performed. The school-based committee, in conjunction with the IEP committee, decided Lowell needed two class periods a day of special education totaling one hour and 45 minutes--one period for reading and one for study skills and learning strategies he would need to be successful in

middle school. This decision required a change of placement (from regular to resource) by the administrative placement committee.

Transition Planning

The eighth grade teachers, special education staff, and school counselors decided to have a transition planning meeting with Lowell and his parents before developing the ninth grade IEP and scheduling high school classes. Lowell's resource teacher prepared him for the meeting using the Education Planning Strategy (I PLAN) .

At the meeting the school staff reviewed Lowell's progress and broached the subject of Lowell's post-school plans. After a lot of discussion, it was determined that Lowell wanted to attend some kind of college--probably a two-year or community college and train for a profession that would enable him to make a good living. Lowell now did very well in math and was interested in banking, accounting, or bookkeeping but was not aware of the specific skills required in these occupations.

The committee decided that Lowell should continue in regular academic classes as much as possible, he should receive special education support, and should enroll in exploratory vocational courses. His ninth grade schedule included: special education English/reading, special education study skills and learning strategies, regular math, P.E., regular science, and an exploratory vocational course. Social studies was postponed a year to decrease the reading load for Lowell's first year in high school.

The committee also tentatively sketched out a plan for tenth, eleventh, and twelfth grades. This plan helped Lowell see the bigger picture and understand how the schedule would prepare him for graduation and college.